PHOTO-ERA MAGAZINE

For the Photographer and Kinematographer

Copyright, 1930, by PHOTO-ERA PUBLISHING COMPANY, INC.

Vol. LXV **NOVEMBER, 1930** **No. 5**

Why I Am A Pictorial Photographer

(Number Thirty-One)

NICKOLAS BORIS

LOVE of the work is the first element to make me study. A talent for any art is rare; but it is given to nearly everyone to cultivate a taste for art, only it must be cultivated with earnestness. The more we learn to know and to enjoy, the more complete and full is the delight of living. To answer why I am a pictorialist—I should rather call myself a hunter, for I am always looking for the things I love and often try to capture them. Sometimes I hit and sometimes I miss; but I am hoping some day to train my eyes so that I may be able to shoot straight. My shooting is done anywhere and everywhere. If I meet a tramp along the road, and like his characteristics, I try to bring him to my studio and make a portrait. If the clouds across the sky portray that which to me is beautiful and unusual, I capture the scene with my camera.

Perhaps to look back into my childhood will show my great love for the artistic. At an early period in youth, I gave indications of being able to draw and sketch on the school blackboards, walls, and on book covers, some of the ancient scenes of Greece. I had a great desire to be a painter. My father was a shoemaker and wanted me to follow his trade. After school hours, he would always make me help him; but this type of work was of no interest to me. And so, many times, I would run away and watch from the window an old artist painting on canvas. Unfortunately, I was always chased away by the artist. After many attempts, I decided to go into his studio and ask for a job, to wash his windows or clean his floors; but again I was chased out. However, a few days later, I ventured back to his studio, and this time I told him of my great desire to be a painter, and, since I had no money to go away to school, he was the only one in town that I might learn from. This time he listened, and employed me after school hours.

After a period of two years with the master, he still found me eager to learn more of the mysteries of art. Therefore he sent me to art school in Athens, and with his help I graduated from there.

At home I was never content. There burned in me the desire to travel, to seek adventure. Youth's desire is not easily pushed aside, and in 1917 I came to America from Patras, Greece.

After my arrival in America, I was employed by an architect in Springfield, Ohio. One day while painting a canvas, he instructed me how to produce the portrait enlargement on sensitised canvas. Thus came my first introduction to photography. I decided to buy an old 5 x 7 plate camera, and, from that time onward, I became more and more interested in photography, and opened a studio for myself.

After a period of eight years in business, and after reading photographic magazines and studying the work of others, I decided to visit some of the noted men of whom I had been reading. I particularly wish to speak of Nicholas Ház. I had taken a number of prints to him to be criticised. After his criticism, I felt that I knew more about photography than I ever knew before. I believed in him and thanked him. He stimulated in me a great love for pictorial photography, and I feel in great debt to this sincere artist, whose teachings deserve praise.

XUM

Soon after my visit, I began to exhibit my work at the different salons. My first salon was in the year 1927 at Paris, France. Fortunately, all three of my prints were hung. Last year, I exhibited in thirteen salons, and this year I hope to make it more. I get great pleasure from exhibiting prints. Many are accepted, and many rejected. Last year a print that was rejected in an American salon won a silver vase in England. And so, I do not become discouraged when a print is turned down; for all judges seem to have different ideas, and after all I only make the print to please myself. I have failures as well as successes; but the strong desire exists in both conditions and serves as an experience in progress.

Much of my spare time is spent in experimenting with different processes and in reading. I have a large collection of photographic books, which help me a very great deal. Aside from this, I am busy finding the lines and forms to express the pleasure and emotions with which Nature has charged the artist. These words of Hendri have very much impressed me: "The man who believes that money is the thing is cheating himself. The artist teaches that the object of a man's life should be to play as a little child plays. Only it is the play of maturity—the play of one's mental faculties. Therefore, we have art and invention."

God created a beautiful world—a beauty that stimulates in me the desire to record it in pictures, so that I may reveal it to others. There are great things in the world to photograph—sunrise, sunset, brilliant moments, a people in the joy of freedom, and what not; but the maker must first of all respond to the subject. Although Millet has said, "Art is not a pleasure trip; it is a battle, a mill that grinds", nevertheless, I love every bit of it, and pictorial photography is the greatest pleasure of my life.

Mist as a Pictorial Aid

WILLIAM S. DAVIS

WHEN one who is known to use a camera meets an acquaintance on an exceptionally clear day, the chances are that the aforementioned acquaintance will exclaim, "What a wonderful day for taking pictures!" The idea seems firmly fixed in the minds of most people that intensely bright sunshine and clear atmospheric conditions are the perfect combination for making the best photographs; but the experienced photographer knows that all subjects are not seen at their best under the same conditions. So, while it is proper to utilise bright sunlight, at times, and particularly when vigorous contrasts and the maximum emphasis upon sharp definition of details is called for, a more subdued illumination is usually necessary if one wishes to obtain a shorter scale of contrasts or very delicate gradation and aërial quality—this, because the transition between the steps or degrees of gradation is less abrupt in a light of reduced intensity, the tones running more smoothly into one another, with consequent increase in subtility of tonal effect.

Now the aspect of things out of doors is affected not only by every alteration in the intensity of the light and the angle at which the light falls directly upon the subject but, as well, by the *quality* of the atmosphere. The light on a hazy day may register the same in actinic power as that falling upon a subject when the air is clear, but when direct sunshine is cut off by a passing cloud; yet the effect upon the subject will be quite different, since what is understood as quality in lighting is generally determined by the relative clarity or semi-opacity of the atmosphere through which the subject-matter is seen. When clouds obscure the sun, there occurs a general flattening in the scale of contrasts, because the light is not only reduced in intensity but so scattered that the direction of its source is very much less pronounced than is the case on a bright, cloudless day. This eliminates well-defined cast-shadows—which play an important part in sunshine-effects—and lessens the tonal differences between the lightest and darkest parts of the scene. On a misty day a totally different effect is visible; for although there is some reduction in intensity of the light falling upon the subject which reduces contrast to a certain extent, such softening of gradation is by no means as

VEILED IN FOG WILLIAM S. DAVIS

uniform throughout as on a cloudy day. In fact, when the sun is shining through a light mist, objects in the foreground may exhibit quite a marked play of sunlight and shadow; but more distant material will show great flattening in contrast, on account of being seen through an atmospheric veil. The extent of the veiling action varies, of course, with the density of the atmosphere and the distance of the objects affected, a slight haze producing a decided effect only upon quite distant parts, while a heavy fog will obscure objects at a comparatively short distance.

To appreciate the part played by mist in a pictorial way, one should understand how it affects the tonality of a subject. We have already alluded to the fact that a marked decrease in intensity of illumination normally shortens the extremes of contrast. In misty weather one finds that softer contrasts prevail than is the case on a clear day; but this is due more to the semi-opacity of the atmosphere than to the reduction in light-intensity. This flattening of contrast manifests itself first by the loss in depth of the darker tones, objects appearing gradually lighter in tone as they recede into the distance, though there is also some falling off in the brightness of the light-tones, as can readily be verified by comparing, let us say, two white houses at different distances, when it will be noted that the one closest at hand is lighter in tone than the other. Thus, the highest lights and the deepest tones in objects of similar character occur in the immediate foreground, while at greater distances the lights and darks gradually lose force until a point is reached where the tones of object merge with the general tone of the atmosphere.

It seems especially important for those

XUM

workers who employ controlled processes of printing—such as Bromoil—to well comprehend the tonal character of different atmospheric conditions or effects, since one false note in a picture will throw a part out of its aërial plane and destroy the correct rendition of atmosphere and the feeling of luminosity.

Reduction of contrast in individual objects, when seen through a veil of mist, naturally causes a fusion of the smaller details into broader masses. Where a subject presents, under ordinary conditions, an over-profusion of detail in the middle-distance or distance, such simplification of effect affords a grateful relief to the pictorialist by ridding the more distant parts of the composition of sharp contrasts and details which conflict with the subject-matter in the near planes.

To summarize: The value of mist to the pictorialist lies in its power to simplify detail and reduce contrast in receding planes, and by the additional emphasis imparted to near-by material aids in producing the feeling of separation between objects lying in different planes. The latter may prove of value in several ways: *First,* by conveying an impression of space or depth independently of linear perspective; as, for example, in a forest interior, which photographed on a foggy day will yield an image expressing space and aërial quality, whereas on a clear day the result would most often present the trees in the background as crowding against those in the nearest plane. *Second,* as the effect of separation between planes is due so much to the change in tonal character of distant objects, the graded transition in contrast produced by mist and fog permits the introduction of a series of flat tones which lend breadth to the composition and yet are sufficiently varied to avoid monotony of effect. *Third,* owing to the exceptional emphasis given objects near at hand, these may be used to produce effective patterns against the dimly defined distance, when under other conditions their outlines would be confused with those of masses in the background. In this connection it may be noted that, if one wishes to make the mist or fog-effect the *raison d'être* of the picture, the ideal combination is an interestingly shaped mass or grouping of details in the foreground seen against a background which contains just enough graded masses of tone not to appear wholly blank.

Our illustration called "Veiled in Fog" shows a type of subject which comes close to meeting the conditions set forth above, the tree forming an agreeable pattern against the sky and the faintly rendered mass of woods in the distance. Incidentally, the darker tones of the tall grass in the immediate foreground serve to stabilise the masses of the composition and emphasise the relative planes in which are situated the tree and the distant woods.

In "Misty Weather", we have a linear pattern produced by bare trees, and aërial perspective perhaps more effectively expressed than in the first picture, since there is a series of objects located at different distances which have served to produce an equal number of atmospheric tone-values, though it is probable that some of the most subtle gradations visible in the original print will be lost in the half-tone reproduction.

"The City of Towers" may serve to suggest the possibilities of mist in connection with the pictorial rendition of architectural masses. It was made several years ago from the deck of a moving steamer on the East River, New York. While the waterfront of a great city always presents an interesting character of its own, it seems to the writer that in this instance the presence of the mist has not only served as an aid in separating the "skyscrapers" from the immediate waterfront, thus conveying through the idea of greater distance an indication of the immensity of the tall buildings, but by obscuring unnecessary detail it has also increased the unity of the large masses and left more for the imagination to work upon.

In referring to the action of mist, we must not omit to mention the beautiful *contre-jour* effects often seen in early morning or late afternoon as the sun breaks through a bank of fog. Such effects are particularly effective over water, especially when some near object is softly silhouetted against the sky. "Anchored in the Fog" belongs to this type of effect. In this instance a viewpoint was found at the end of a long wharf and the exposure was made while a low-lying heavy bank of fog hung over the water and the sunlight shone through the thinning mist above.

Technically there is not much to be said regarding photographing mist-effects. When the mist is fairly thin there is usually no need for much, if any, increase in exposure over what should be given on a clear day; for although the actinic or photographic strength of the light is somewhat reduced, so are the contrasts and darkest tones of the subject. Consequently this factor balances the other;

ANCHORED IN THE FOG
WILLIAM S. DAVIS

MISTY WEATHER WILLIAM S. DAVIS

since a short-scale, light-key subject needs less exposure proportionately than does one that is darker and shows more contrast.

In a very dense fog, or late in the afternoon when the haze renders the light quite yellow, the loss of power from the photographic standpoint is enough to make a longer exposure advisable. Under such conditions one can as a rule double or triple the time of exposure which would be correct under normal conditions.

In most cases there is nothing to be gained in the rendition by employing a ray-filter. In fact, employment of one when the mist is very thin may even cut out much of the haze-effect and thus lessen the atmospheric quality. An exception can, however, be made in cases where it is important to preserve the visual difference in tone of white objects against a blue-gray mist. Here is where a light yellow filter comes in useful to preserve the tonal relationship between object and haze which might easily be lost were the exposure made without a filter.

We have assumed in the foregoing paragraphs upon technique that either orthochromatic or panchromatic material is used, and in the case of plates that the non-halation type—either backed or double-coated—is given the preference over the ordinary grade. To preserve the beauty which comes from perfect rendition of subtle gradation in the lighter tones, care must be taken in developing negatives not to continue the process to the point of blocking-up these tones into unprintable masses. Even the highlights of the subject in a negative of an atmospheric effect should be translucent enough to avoid chalkiness in the print. Moreover, the darkest parts of the subject should not be represented by clear glass in the negative; because absolute black, as well as absolute white, is an extreme in tone, to be avoided in pictures

THE CITY OF TOWERS — WILLIAM S. DAVIS

where a mist or fog effect is an essential element of the composition.

Data: "Veiled in Fog." Made in July at 7.40 A.M. (Standard Time), during heavy fog; no direct sunlight. Exposure 1/25-second at F/8, R.R. lens. Conley, Jr., pocket camera; Eastman roll-film.

"Misty-Weather." Made at 1.50 P.M. on a dull day in January. Exposure 1/2-second at F/11, R.R. lens. Conley, Jr., camera; Ensign film, several years old. Owing to the age of the film, a somewhat longer exposure was allowed than would probably have been given otherwise, but the result proved all that could be desired technically. An enlargement of this subject, under the title *Temps Brumeux*, was shown at the III Salon d'Art Photographique, Roubaix, France.

"The City of Towers." Made on an August day at 1.10 P.M. (Standard Time), in a diffused misty and cloudy light. Exposure 1/100-second at F/6.3, on a Cramer Instantaneous Isochromatic plate. Homemade camera fitted with Ilex anastigmat.

"Anchored in the Fog." The subject is a Nova Scotia coasting schooner in a Long Island port. Made early in December at 3 P.M.; foggy yellow light. Exposure 1/25-second at F/7.7, on Eastman film. No. 1, Series III; Kodak equipped with Kodak anastigmat.

[Without a doubt, photographs should be made under the best possible conditions of weather and lighting—that is, for the clearest, sharpest results. However, those who like to get away from the beaten path and give free rein to their artistic reactions, often prefer to make pictures when most camera owners remain at home because of bad weather. Mist, rain, snow, wind, storm-clouds frequently produce effects of remarkable beauty or of striking power.—EDITOR.]

XUM

Are Our Colleges Doing Their Part?

EDWIN W. MAPHIS

WHEN the automobile business began to assume its now generous proportions, there immediately sprang up innumerable trade schools to teach the technique of the business. At first, instruction was limited to mechanics, but it soon extended to every phase of the industry, including automobile salesmanship. Now many of our universities carry accredited courses covering this branch of technology. So it was with radio, and those universities specialising in technical subjects experienced such a demand for instruction that it was not long before adequate training was offered in the leading technical schools to meet this demand. We have a parallel case in the history of aviation and, more lately, in gliding. Instruction is now being offered for those interested in flying as a profession, or in the manufacture and designing of airplanes. Aëronautical engineering has found its way into the curricula of some of our leading universities.

Do not the photographers of our country feel that they are being slighted by our colleges? Or is it that there has been no demand by them for technical college training? It is a fact that, although a great deal of photographic work is done in our colleges in conjunction with biology, physics, astronomy, psychology, geology, medicine, and many other subjects, there are but few institutions giving any training in photography itself, and none offering a full four-year course in this important science. Does the photographer still look upon his vocation as a trade? I wonder. I, myself, am only an amateur. To me, photography is as yet a hobby; but I can see no reason why photography should not be ranked as a profession and should not be accorded as much consideration in the program of our institutions of higher learning as any other technical subject of like importance. The only reason I can conceive for its not having received this consideration is that those who would be most benefited have neglected to demand their rights. They either believe it unnecessary, or they are lured into making a beginning with the scantiest training by the fact that they can commence to earn money without a preliminary training-period. But the time is soon coming when the men without training will be squeezed out. The lost motion and waste by him who must learn solely through practical experience, by trial and error, will be too great a handicap.

We have no amateur lawyers—self-proclaimed; but we have thousands of frankly amateur photographers who are a credit to the art and science of photography. Many of these became interested before reaching their teens. The motion-picture has lent impetus to the enthusiasm of the amateur, who has always played a big part in its development. Credit courses in photography would attract numbers of these as well as those who expect to make some phase of photography their life work. Besides, there are literally a multitude of professional photographers now doing business who sorely need such training. If instruction were at hand, many of these would avail themselves of the opportunity to increase their efficiency, as have aspirants in other fields, a circumstance attested by the enrollment in night-courses in business administration, English, law, and, in fact, in almost any course offered at a time that it is possible to attend.

It seems strange that practically all of the research work in photography done in this country is being carried on in the laboratories of our big industrial plants rather than in the laboratories of our universities. There is a tendency in all business toward specialisation. In a little New England town, a certain enterprising gentleman hangs out his shingle, proclaiming himself to all the world an "exterminating engineer"; he is a *rat-killer* but an exterminating engineer just the same.

In present-day photography there is ample room for specialisation. An inevitable concomitant of specialisation is an increasing need for technical training. We have, now, so many branches of photography that it is only a genius who can be proficient in all. The work is so technical, as a whole, that the self-made photographer is on a par with the self-made civil engineer or self-made lawyer. He may become an exceedingly good photographer—in time. But think what a great saving in time, labor, and material could be effected if we had technical training in our universities for the photographer equal, in proportion to numbers, to the train-

ing given in civil, mechanical, or electrical engineering, or in industrial chemistry!

It seems that the opportunity presented to our universities in service in the photographic field is, indeed, too enticing to be ignored. With our modern extra-rapid lenses, that latest of which, remember, is F/0.99, our safety acetate film, our panchromatic emulsion, our varied selection of printing papers and processes, we have gone far; but the prevalent belief is that we have much further to go. Aspherical curves have been employed in a modern dissymmetrical lens. However, little has been attempted along this line on account of present difficulties in grinding such surfaces with accuracy. Color motion-pictures, although already a success, are still in a state of development. A practical method of obtaining colored prints has not been found, although it has been assiduously sought for many years.

Photographers are beginning to realise the importance of knowing more intimately the properties of the materials with which they work. There has been advancement in equipment of every kind—lenses, sensitive materials, developing agents, and cameras. The photographer is compelled to know more than formerly, and the more he is compelled to know the sooner he will be swamped, unless he has the means of getting his knowledge quickly and economically.

Considering this matter of specialisation, there are a number of professions, such as astronomy, for instance, depending largely, or in part, on photographic processes for their most recent achievements. The photographic work in many of these professions is a specialty in itself: for example, aërial topography and photomicrography. The motion-picture industry, born of photography, has proved the greatest factor in its advancement and in its increasing specialisation.

Apart from the motion-picture industry, and excluding newspaper and magazine work, photography is still of huge commercial importance. Amateurs alone are consuming, winter and summer, fair weather and foul, from 10,000 to 50,000 rolls of film every day in the year, a large number of plates, and a surprising footage of 16 millimeter film. Amateur kinematography has experienced a remarkable popularity and a rapid growth from its inception.

There is much to attract active minds in the future of photography. The great progress of the past decade is but a beginning. Our colleges should be alert to the possibilities. Let me recall two fairly recent photographic "stunts", if you will, that may suggest to you other possibilities. They open up avenues that are limitless. They intrigue the fancy of the most practical drudge.

In a second successful attempt to photograph Mt. Rainier from the air at a distance so far that the human eye could not penetrate the haze between the plane and the mountain peak, Captain A. W. Stevens, U. S. Air Corps, overshot his previous record by a good margin. Soaring above Crater Lake until he attained an elevation of 20,000 feet, he obtained a picture of Mt. Rainier 270 miles distant. This peak rises 14,000 feet above sea level, but disappears below the horizon at three hundred miles' distance from a 20,000-foot elevation. Had Captain Stevens climbed to a greater height, he could have made the picture at a more distant point. What the possibilities are as to distance has yet to be discovered. The most interesting feature of this second experiment was the use of a lens of a deep red color, which appeared black to the naked eye. *The lens was its own light-filter.*

At about the same time, William Beebe and Otis Barton, operating off Nonesuch Island, Bermuda, descended in a huge metal sphere, with three fused quartz windows, to a depth of 1,426 feet, making observations of marine life. The pressure to the square inch at this record depth was 652 pounds, yet the feat was accomplished. Here, again, are possibilities for the camera in a virtually unexplored and, therefore, romantic field.

We are accustomed to question things Russian; but, among other things, Russia is alive to the potentialities of photography. The Friends of Soviet Cinema and Photo, organized in 1926, had in three years' time over 4,500 photo-circles. Lectures in photography are given over the radio and correspondence courses offered. Indicating the growth of the mass photo-movement, the magazine, *Soviet Photo,* attained a circulation of over 25,000 by 1930. The Commissariat of Public Education has been asked to introduce photography as an obligatory subject in the schools and to form a chain of special photo-circles to prepare instructors. It is claimed in Soviet propaganda that the photographic industry will increase in Russia eight or nine times in the next five years. All of this has been done with very little native equipment in film, chemicals, or

XUM

cameras. It would seem that we in the United States might try to encourage the growth of photography.

If our colleges would have no work to do in teaching our youths what has already been found out in photography, there is much work to be done in finding out what is not yet known. What are our colleges going to do about it? Will they lend a hand? I believe that, if the demand is pressing, our colleges will respond. It is really up to us to take the initiative. In most colleges, you can "get up" a class in any subject in which you have a professor capable of teaching and enough equipment to teach, provided you have sufficient students who want the course. In photography, given the students, you would still be seeking the professor and the adequate equipment. The demand will have to be impressive, convincing, to carry weight; much water has to run under the bridge; but the flood tide cannot be turned back. When the plea is urgent, the gateways of our colleges will open to us as to all who determinedly seek "the way of honor, the light of truth, the will to work for men".

Photo-Equipment

J. E. BULLARD

THE most frequent question I am asked is, "What camera ought I to buy?" The average person seems to be intensely interested in equipment. Some are interested to the degree that they neglect the technique and the art of photography. Queries that have reached me from people in all parts of the country—from the Atlantic to the Pacific coasts, and from the Gulf of Mexico up into Canada—indicate a feeling on the part of those who wrote that there is something magic about equipment; that provided the right equipment is owned, the pictures will be right. Yet some of the best photographs are made with the cheapest cameras, and some of the worst with the most expensive cameras. After all, it is the man or the woman behind the camera that counts.

A certain photographer who is gaining his living making and selling photographs and whose pictures appear in publications in all parts of the world, lives on a farm, rarely travels very far to obtain his pictures, and uses an old reflecting camera and a view camera that many a less skilled photographer would scorn to use. He has rigged up a projecting enlarger that uses daylight. One who has seen his photographs would naturally expect to find a lot of fine equipment in the possession of this man. As a matter of fact, he himself admits that it is crude.

"I've been thinking of getting some new equipment", he says, "but I don't seem to get around to it. After all, it's the picture that I'm interested in, something that people will like to look at, something that people will sell. That keeps me so busy thinking up new ideas, new ways to make pictures of nature, that there doesn't seem to be much time to think of anything else. I've even stopped fussing around with chemical formulas. I buy the chemicals in tubes."

This man does his own syndicating, has several thousand prints out all the time, makes no contact prints at all, and spends one day every week making eight-by-ten projection prints to fill orders and to send out to prospective customers. He has settled down to one particular type of work, devotes his entire time to it, has become thoroughly accustomed to the equipment he has and when he buys new equipment it will not be so very different from what he already possesses. A large proportion of his nature pictures, including those in which there is likelihood that the subject will move, are made with an F/6.8 lens. As a matter of fact, the results he obtains appear to be almost impossible with the equipment he uses.

However, he explains that more expensive equipment would not prove as advantageous as one would imagine at first thought. In a number of cases it is desirable to stop down to a considerable degree, anyhow. In only a relatively small proportion of the cases is a lens as fast as F/4.5 at all necessary. It is a case of doing a whole lot of thinking, preparing, and planning in the first place, he says, and then exercising a great deal of patience in making the picture.

All this, however, does not change the fact

IN ACTION
ZOLTAN HERCZEGH
HONORABLE MENTION—MISCELLANEOUS

that it is desirable to have just as good equipment as one can afford. That equipment should be the kind that is best suited for the work one is doing. There is only one piece of equipment that is coming to be absolutely essential for everyone who wants to get the best appearing results. That is a projection enlarger.

The projection enlarger is needed, and the vertical type is probably more desirable than the horizontal, because it is often very difficult to get a negative in all cases that is perfectly lighted. Also, for different purposes, somewhat different prints are desirable. With the projection enlarger, it is a comparatively simple matter to do the necessary dodging to get the type of print that is desired. Any part can be held back. Also, only the best part of the negative can be selected and all prints may still be made of the standard eight-by-ten size.

It is evidently becoming more and more general for those who are making pictures to sell to make no contact prints at all, but to enlarge every negative. This is especially true of newspaper photographers and those who are selling photographs to newspapers and magazines.

When it is decided upon that a projection enlarger must be bought, this decision has a great deal to do with the selection of the rest of the equipment. For example, one first selects the enlarger he is going to buy. The best one that he can afford may not take negatives larger than four by five. This fact at once limits the size of the cameras he will buy to the four-by-five size. If he is going to do general work, he will then pick out a four-by-five view camera, with just as long a bellows as he can get on it and also with a large lens-board, so that he can use practically any lens that he may wish to use. With this camera he will be able to make show windows or anything else where it is necessary to get close to the subject and still cover a large field. For this work he needs a short-focus lens, one with a wide angle. He can copy because he has a long bellows. He can use convertible lens. He has a very flexible outfit that covers a very long range of work.

He will also need some kind of hand camera, and it is in the selection of this that he will experience the greatest difficulty. It is not always easy to decide whether to select a rollfilm camera, or one in which filmpacks, cut films, or plates may be used. The rollfilm has the very great advantage of easy changing from one film to another, of being light in weight, of occupying little space, and of being sold almost everywhere in the world. More film can be bought in any city or village, if the film is of the popular size. The greatest disadvantage seems to be the lack of a variety of emulsions. Another disadvantage, of course, is that it is not very practical to develop exposed parts until the entire roll is exposed. Yet in many cases the rollfilm camera meets the requirements better than any other camera can.

If it does not meet the requirements, then a camera in which plates, filmpacks, or cut films may be used becomes necessary. There, again, we have to make a still further decision: Should one buy a reflex camera? Is it better to have one with a curtain shutter? How fast a lens is required?

It is very difficult to do with other cameras some things you can do with a reflex. On the other hand, all types of reflecting cameras are both heavy and expensive to buy. A good many people will find that they can make all the pictures they wish to make with some other type of camera. Some like cameras that they can hold at eye-level and make photographs with the camera in this position. This has a bearing upon the type of finder to be selected.

The whole matter sifts down to the fact that there is no hand camera that is as universal in its use as is a view camera in its field. Every hand camera, from the mere fact that it is a hand camera, has to be a specialised camera to a very considerable degree. This means that, before selecting a hand camera, the photographer should first decide upon exactly what he wants the camera to do. After he has made this decision, after he knows exactly what kinds of pictures he is going to make, then the selection becomes a much easier matter. The usual error made is to try to find a camera that will do everything.

When a camera is selected for a certain definite work, the one selected may be a cheap box type, or it may be an expensive reflecting type. It may have a slow lens, or it may have a fast one. In any case, it should be the camera that will do the work for which it is bought, and do it in a most satisfactory manner.

Some people have a mania for fast lenses. If they have an F/4.5 and they see an F/2.9 advertised for a camera of the size they are

using, they cannot rest till they possess that F/2.9. Then they gradually come to the realisation that, for the pictures they make, they are always stopping down to F/8 and perhaps to as much as F/16 in order to get the results they desire. Perhaps not once in a year are they able to make a satisfactory picture with the lens wide open, and probably that is not an important picture. They did not need the fast lens at all.

On the other hand, there may be work that requires a very fast lens. The photographer may be making pictures of a kind and under conditions where he makes a large proportion of his pictures with his lens wide open. He naturally needs the fast lens.

In addition to speed, there is a choice between lenses that are soft-focus and those which give very sharp pictures. More and more photographers appear to be coming to the conclusion that they must have both types. There are some pictures that may not be at all satisfactory if made with a soft-focus lens, while there are others that are greatly improved if made with a soft focus. Often the only way one can be sure is to make the same photograph with both lenses. For certain illustration purposes, a piece of jewelry or even a machine will appear better if made with a soft-focus lens. On the other hand, for a given purpose it may be desirable to make a portrait with a sharp-focus lens.

This means that in the case of view cameras, especially, one is likely to find that the experienced photographer has a battery of lenses, as follows: One convertible anastigmatic, one soft-focus lens, and one wide-angle lens. The wide-angle lens will naturally be a slow one and will ordinarily be used stopped down to at least F/16. The anastigmat may not have a speed greater than F/6.8. The soft focus will probably be around F/4 or F/4.5. With this outfit one can do pretty nearly everything; and if his hand camera has a lens-board from which the lens can be removed easily, the same lens may be used in both cameras.

Photography of Fish in Public Aquariums

JAMES MOYNE, Jr.

TO the average camerist, making pictures in public aquariums with ordinary daylight seems a very difficult task. Comparatively speaking, it is not; on the contrary, it is rather simple, possibly because a fish is just a fish and therefore of no particular beauty to the layman. There is a vast amount of information to be gained about the various kinds of fish, both fresh-water and salt-water species, and their ability to change their color by manipulating the scales on their bodies in such a manner so as to reflect the color of the moss, rocks, and whatever happens to be near them. In this manner they make themselves practically a part of their surroundings and protect themselves from the other fish, as they cannot be easily seen. But this article will try to deal strictly with the photographic aspect.

The greatest bugbear one has to deal with in this kind of work is reflections of the objects outside the tank you are photographing. I think that is why one doesn't see more of these pictures. The reflections can be compared with those seen when photographing a store window in the daytime, although they are not quite so observable in the aquarium. The only reflection is that of the other tanks directly opposite the one you are photographing, and incidentally the reflection of yourself and your camera.

In public aquariums, it isn't practical to hang up black cloth over the front of the tank that is causing the reflections. Another way is to cut off the light from above by placing a large piece of beaver board, or something similar, across the top, thereby making the tank dark and unable to cast light into the tank you are photographing. If it is possible to carry this out, the results will be much better.

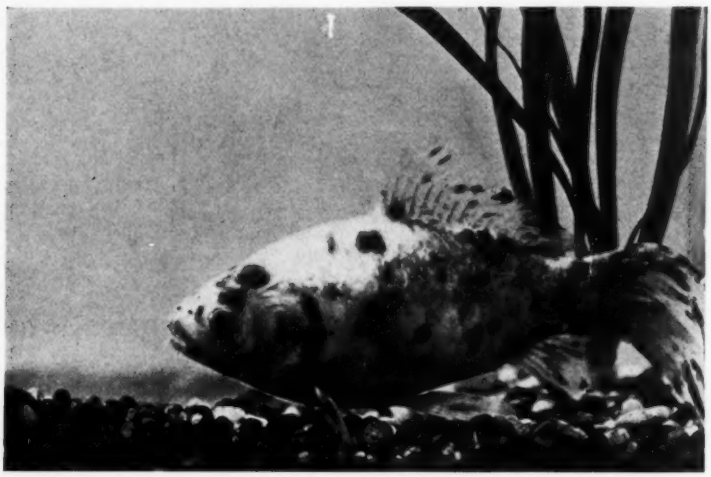
Another way of getting rid of the reflections is, instead of shooting directly at right angles to the tank, to move to the right or left until the reflections have about disappeared from the camera range. A low viewpoint will sometimes give a picture that is

XUM

free of reflections. Of course, if there are no tanks of fish in back of the camera, the above may be disregarded.

Flashlight powder is an excellent means of exposing a plate or film; but even at its best, it requires a certain amount of preparation, and then it is not permitted to be used promiscuously. Also, special permission must be had from the manager; whereas, in daylight, in a great many aquariums throughout the country, no permission is needed to make pictures of the fish through the glass tanks if the photographer conducts himself in a quiet and inconspicuous manner. The best position for the fish to be in, as you close the shutter, is broadside on. A reflecting camera can be used to advantage in this work.

I should like to say a word here about the other method of photographing fish in the water. It is quite possible to use a small tank, say two feet long, eighteen inches high, and five inches deep, and make a glass frame, say one foot long, from glass strips, and two inches wide and twelve inches high. This frame will have three sides only. The top is left open and is suspended from the top of the tank. It may be joined at the corners with adhesive tape. The frame hangs in the water of the tank, flush against the back, and a piece of plate glass, say eighteen inches square, is laid flush with the front of the small glass frame. When the fish is put inside the small frame of glass, he is so confined that all that is left for the photographer to do is to take the tank out in the sunlight, if he has not already done so; set the tank at one end of a table and the camera at the other, then commence shooting, after he has stopped the lens down as much as he pleases, depending on how much the fish is moving about. With this method one can give very long exposures such as a one-fifth, one-half, or one second, using a film-pack.



GOLDFISH JAMES MOYNE, JR.

The above procedure is all right if you have the facilities to go and get any kind of fish you want and photograph it; and if you have followed the rules, you can't help but get a good picture. But how much more sporting it is to photograph fish in their natural surroundings, such as in the large aquarium tank, with other fish!

Now, then, the best fish to photograph as to color. Don't photograph the red fish, orange, black—that is, all black (I am speaking now of working in the large public aquarium); the yellow variety doesn't show well in a print, either. The best goldfish are the ones that are white and gold, not all

MACKINAW TROUT JAMES MOYNE, JR.

one solid color of gold. The gold comes out too black a color in the print. There are plenty of gray, gray-white, light green, blue, and so on, with the rest of the light colors. Always plan to photograph the largest fish, because the small fish require too much enlargement to bring up to a satisfactory size.

As to the equipment that I use, in all my pictures, it is a medium-priced Voigtländer 3¼ x 4¼ camera, using both film and plates and an F/4.5 lens of 5½-inch focal length. I don't recommend a faster lens or any of longer length than 7½ inches, because the depth of focus is too shallow and this work needs all the depth possible.

In the pictures, the distance was about ten feet from the tanks, and the exposure was 1/10-second at F/4.5, using Sensima plates, 700 H. & D., sun shining outside. This was the reading I took from the Justophot exposure-meter. Better results would be had by using 1400 H. &. D. plates at 1/25-second, F/4.5. No one need be afraid of using these plates, just because he probably did not think he could use them. He certainly needs them here. I use the regular A B C Pyro

MONTANA GRAYLING JAMES MOYNE, JR.

XUM

developer in a tray covered for the 1400 H. & D., and a No. 2 red safelight for the 700 H. & D.

Another fine developer for tray use is the Ilford formula pyro-soda in B. & W. tabloid form, as is also B. & W. Pyro-Metol developer for fast plates.

There is no special trick in making the pictures which illustrate this article. Follow the suggestions made, and use your own ingenuity to elaborate on them if necessary, and you will get good pictures. There is much pleasure, at times, in leaving the beaten path and trying something different.

My Friend, the Brownie Camera

ALICE M. HEAVEN

AS a lover of the outdoors, I have acquired a home in the country. How I love it! I dream of my acre during the long winter months. When May comes, the first of May, my sister and I fill our touring car with new hoes, Mazda bulbs, gladioli bulbs, and cartridges—*film* cartridges, not gun—and leave all the noise and glare of the city to climb South Mountain in the Blue Ridge.

I was happy enough, at first, just hemming curtains, digging up the garden, chasing cutworms, and scolding chipmunks; but after awhile my attention was called to the historic landmarks which surrounded me. On trips to the neighborhood, such battlefields as Gettysburg and Antietam, such manors as Rose Hill and Prospect Hall, were found, and I longed to have a memento of them. Very frankly, my budget said nothing about a camera; but one day as I passed a photographer's in our local town, I saw the magic mirror so to speak. I bought my Eastman Brownie, No. 3, which costs five dollars, and which makes pictures 3¼ x 4¼. By denying myself a hat or two, or a pair of extra slippers, I have joined the happy band of amateur photographers.

The pleasure which I have derived from my camera cannot be put into cold print. I now have a collection of more than two hundred historic pictures which I keep in an album, for reference, and from which I draw inspiration for slide talks, feature articles, and greeting cards; for, framed in the charming little tinted holders which Eastman sells at three for twenty-five cents, I have made many a friend happy.

The Brownie is very easily operated; but too much caution cannot be taken to load the camera with great care. Do not forget three things: to pull up the winding key, to note that the new roll of film goes into the end which shows the slides, and to observe that there is a slot in the reel which must fit into the key. My experience with the Brownie is that strong noon sunlight does not produce as effective prints as afternoon light. Some of my best results have been obtained at five o'clock in summer, when shadows were lengthening and yet there was plenty of clear light.

In the Brownie there are two slides which control the shutter. In the shutter are three stops. When slides A and B are down, the largest stop is in position, and that is generally used for all instantaneous exposures. When making pictures, the object must face the sun, but the camera must be in shade. If you see the picture clearly in the finder, you will probably make a success. If, however, you cannot "find" it, or there is a blur, do not waste your film. Never tilt the camera. Hold it firmly against you, and push the lever to right or left slowly. Listen for the "click" of the release.

Suppose, on the other hand, you are ambitious, and wish to make a time exposure, which will greatly enhance the distance in your picture. Pull out slide A, which is nearest the edge of the camera. Do not touch the other slide. Now place the camera upon a convenient stump or rail, or use a tripod, and move the lever slowly up and then down. By using this stop, I have photographed miles of landscape. Once I photographed a line of Confederate monuments which must have stretched some three hundred feet. Upon another occasion, I obtained a foreground of blooming iris and a background of rolling mountain landscape, which made a remarkable picture.

Now, you say, I have made a time ex-

Limestone Bridge
Wooden Gate
GROUP OF BROWNIE PICTURES

Dogwood Tree
Old Hessian House
ALICE M. HEAVEN

posure; but what next? How do I get my print? I confess that I have not found it profitable to develop or print my films, as I only take one or two rolls at a time. Any drugstore in the U. S. A. maintains a photo-finishing agency. The charge is standard, eight cents for developing each print and six for printing. A six-print film, No. 124, will cost about $1.29. However, if you wish to be a complete photographer, there is the Eastman A B C developing and printing outfit, at two dollars.

Remember that dusty lenses will harm your pictures. Remove the roll holder, and open the shutter. If the lens is dirty, it should be wiped with a cloth, as even a speck of dust may cut off light.

My experience is that many pictures are spoiled by lack of preparation. You want to make the picture of a child playing in the garden. See that her dress is attractive, that her socks are pulled up. Last summer I obtained a very good picture of my little niece by posing her in front of a flowering bush of white bridal wreath. The effect was quite startling, as the white flowering shrub framed her as in a picture and yet showed her comparative height admirably.

Personally, I do not care for figures, and work much more in architectural effects. It is difficult to really obtain a satisfactory stretch of road; but an object on that road often seems to include the landscape. Remember that with time exposures out of doors, there

XUM

are different time limits. With sunshine, push the lever quickly to and fro; with light clouds, expose the lens from one to three seconds; for heavy clouds, from four to eight seconds. If you wish to illustrate a feature article, have your prints finished on glossy paper. Velox is the paper to use, and, as the advertisements say, insist upon it.

I give here some pictures made at random. The pink dogwood tree grows beside our steps, and later the film was made into a beautiful colored slide for a Garden Club lecture. It looked like a million dollars when it was thrown upon a screen in a theater.

No. 2 is just a wooden gate; but isn't it artistic? It is on the Susquehanna Trail, near Emmitsburg, Md., and admits to one of the residence cottages of the Academy of Saint Mary's.

No. 3 is an old stone house with a flowering apple tree, which has every indication of having been built by one of the Hessian prisoners, or settlers who invaded the Blue Ridge after the Revolutionary War. Remember that the British used these mercenaries, supplied by the Duke of Hesse, and that they were never sent back to Germany. The western counties of Maryland are filled with these picturesque limestone houses, bake ovens, well houses, and mills, and they are eloquent of the past.

No. 4 is one of the fourteen limestone bridges spanning the historic Antietam, built by John Weaver about 1824. This beautiful bridge was ordered to be destroyed by a Confederate general during the Gettysburg campaign, until a number of farmers convinced him the ford was so shallow that troops could not be prevented from wading through the river.

Only one who has the seeing eye can know the pleasure of camera quests. To find a picturesque house, a crumbling spring house, the fast-disappearing covered bridge, toll gate, or inn, rounds out a perfect day and wins a treasure which cannot be estimated.

Easy Ways of Keeping Track of Negatives

FRANK H. WILLIAMS

IS there anything quite so annoying as to want some particular picture or negative very badly and then to paw over your collections for hours without finding it? Unless the prints and negatives are carefully classified and arranged, such distressing occurrences are apt to happen every now and then. Consequently, it is important and worth while for the photographer to arrange some sort of simple method of keeping track of prints and negatives and of preserving them in good condition.

One of the easiest methods of doing this is the proposition of always pasting prints in classified albums and then numbering them in accordance with the filed negatives. For instance, there can be an album of miscellaneous outdoor scenes; another album can be devoted to some particular trip, on which a large number of photographs were made; a third album can be devoted to groups, and so on. Then, as additional prints are made, they can be pasted in the proper albums.

As has been said, each of the prints is numbered—these numbers corresponding with the numbered envelopes in which the negatives for the prints are filed. Negatives are filed in the same sized envelopes, about ten negatives to an envelope. On the outside of the envelopes are put short descriptions of the contained negatives, together with the dates when the photographs were made. The envelopes are then filed numerically.

If a certain print is desired, then the first step is to go to the album containing prints of the general character of the one that is wanted. It is a simple matter to thumb through the pages of the album until the picture is found. Then, under this picture, is found the number of the envelope in which the negative for that photograph has been filed. The negative envelope is then secured and the negatives sorted until the right one is located. Some amateur photographers who use this method are very enthusiastic about it.

Of course, a more careful classification is sometimes necessary where there are many photographs in the collection. In such a case, it is a good plan to number every negative and to have a card index for all the negatives. The cards are then filed alphabetically,

according to the descriptions. The cards give the principal points of the photographs. For instance, suppose that the photographer has made a number of prints on a trip to the Grand Cañon. In such a case, all of his Grand Cañon photographs would have cards indexed under "G" for "Grand Cañon" and each of these cards would carry a description of the individual picture—such as "El Tovar Hotel from front", "Bright Angel Trail going down", and so on.

With this sort of classified method of keeping the negatives, all that is necessary, in order to find any particular negative, is to look at the proper place in the index. Then, when the card is found, it gives the number of the envelope in which the negative has been filed, and as the envelopes are filed numerically it is a simple matter to find the negative in a short time.

A much easier method of keeping track of the negatives is to have a number of boxes, all of about the same size, and to place all negatives of a certain classification in one box, all of another classification in another box. And so on.

If the photographer makes only a comparatively small number of pictures each year, then he may place all the negatives for a year in a single box, with some notations on the cover as to what special trips and what special photographs are to be found in the box. Or, if the photographer makes many pictures during the course of a year, then a better plan is to adopt the method of many commercial photographers; namely, to classify negatives according to subjects and to place them in the boxes accordingly. For instance, all trip pictures can be placed in one box; all picnic and party pictures in another box; all family pictures in another; all news pictures in a fourth box. And so on.

When negatives are classified in this way, it is a comparatively simple matter to find any especially desired negative. The only thing needed in locating it is some patience in going through a lot of negatives.

The big thing about keeping track of negatives is to have a definitely fixed method of classifying them and then to stick to that method and to also see to it that all negatives are properly filed at once, instead of being allowed to lie around the darkroom or the house or on desks and tables for days and weeks. Negatives have a very disagreeable habit of turning up missing if they are not filed correctly and immediately.

It is also a big help in getting the utmost possible value out of negatives and pictures to keep track of dates when the pictures were made. The best plan of doing this is, of course, to write the dates on the prints or under the prints when they are pasted in albums. But in addition to this, it is important to keep track of the dates on the negatives, if possible. The prints may be lost and then, if the negatives are undated, there's just about no telling when the older pictures were made.

"My plan with all my negatives", said one enterprising amateur photographer, "is to have prints made up of all good negatives and to then put the prints in properly classified albums, with dates when they were made under the prints. Then I file five negatives in an envelope and on the front of each envelope put a brief description of the negatives and the dates when they were made. I file my negatives according to dates. That is, my oldest negatives are at the front of the drawer in which I keep them. I have tabs sticking up in the drawer between the negatives for each six months. On these tabs, I put the dates of the negatives to be found behind them.

"In this way, then, if I want to find any particular negative, I first look up the picture in my albums and from it get the date when the negative was made. Then I go to the drawer where my negatives are filed and pick out the negatives for the six months during which the picture was made. Then by looking at the envelopes and noting the descriptions on the envelopes, I am able to locate quickly the desired negative.

"Of course, this method of finding negatives involves some work in hunting; but what's the difference? It is only very rarely that I ever want to get an old negative, and because this is the case I feel it is more to my advantage in spending some little time hunting than it would be to work out a more snappy method of filing and classifying them. The main thing, as I see it, is to preserve all negatives. They represent a real dollars and cents cost; they are a comprehensive record of some of my most pleasing activities from year to year, and as long as I have the negatives I can duplicate any pictures at any time. As I see it, there's no sense in spending time and money and effort in making negatives and then letting them get away from me or having them scattered all around the place in such confusion that I'd

XUM

never be able to locate the ones I really wanted."

Undoubtedly, much of the fun and pleasure of making photographs lies in having the pictures arranged in an orderly manner so that they will mean something, and in also having the negatives kept in such shape that they will be handy and easily secured when desired and will be a source of pride to the photographer.

All of which leads up to this important question—How are *your* negatives arranged?

The Complete Outfit

JAMES P. MARSHALL

MEN of wisdom have solemnly declared that only a fool gets stung twice by the same bee! Be that as it may, the writer must admit suffering a triple stinging before he became sufficiently aroused to seek a prevention of a fourth like occurrence.

Sting number one occurred while I was driving home, almost at midnight. Shrieking whistles and the roar of escaping steam guided me to as pretty a wreck—pictorially speaking—as I had ever seen. I had no camera, nor any auxiliary equipment which would have made one useful. So, after a time, I was forced to leave the scene with only a mental record of the event.

Sting number two came just as unexpectedly! In company with my best pal, I stood beside a lunch-wagon, enjoying one of those American mysteries known as a "hot-dog", when with the usual clatter several pieces of fire apparatus roared past. With the half-consumed "hot-dog" suddenly occupying a cigar-like position in my mouth, I leaped into my car and gave chase.

It was a long run! It led across the city, through the outskirts out into the country; but, finally, it ended at a fiercely blazing house, with two others near by striving to catch up to the first. Again—no camera, and that feeling of having been cheated.

From that time on, a camera of some sort rode in the car wherever it went until the night of sting number three. An intermittent stream of automobiles at a crossroad; a small coupé darting out from the road at the side—and it happened! The coupé glanced off the rear of a big sedan, did a complete turn and a half in the same manner as a barrel, and tumbled out three men slightly scratched, but otherwise unhurt, although the little car was reduced to material for the scrap heap.

I had arrived at the correct moment. I had my camera, to be sure; but I needed a flashlight, and I might as well have wished for the moon. What city editor would not have used that picture in the next morning's news, if—*if* one but had had it to offer!

Right then I vowed never to be caught again; that thereafter I would always have a camera, and more, that I would carry enough extra equipment to make the camera useful under all sorts of conditions. The next morning, I made up the kit.

First on the list, and most important, the camera, a 3-A Kodak special with an F/6.3 Anastigmat lens and a combination back to allow the use of plates, cut films, or roll-films, equipped also with a footplate into which could be slipped a direct-vision finder. Beside the camera, I placed the focusing-screen, the sight finder, and four plate-holders, two loaded with plates of average speed, the other two with superspeed plates.

So far so good! I had a camera that would make pictures on any medium but a filmpack, as long as I had daylight to help me. But for the hours of darkness I would need a flashlight.

Up until this time I had always been partial to flash-sheets; but now, considering that I might need to get into action quickly, and having only the usual number of hands with which to hold things, I dropped the flash-sheet holder and took a walk to my supply house.

When I returned I had a flash gun. It was neat, it was small, it required no caps or trick arrangements aside from a renewal flint now and then. It wound up like a clock, with only a finger pressure necessary to fire it; and, best of all, it *worked*, and gave promise of continuing to do so. With the flash gun, I bought an ounce of powder.

Right here another question popped up. Would it not be difficult to measure out flash-

SUNSET—WASKESIU LAKE
PRINCE ALBERT NATIONAL PARK
EARLE W. GAGE

powder under adverse conditions? Rainy or windy weather or inky darkness might defeat me. Surely I should have it measured before its use became necessary. This particular difficulty was easily surmounted by procuring a number of small vials from the nearest druggist, which proved to hold just twenty-five grains of powder each. With a number of these on hand it would be possible to measure out a flash-charge even if one were blindfolded.

The next articles to join the group were the lens-auxiliaries; namely, a portrait attachment, sky-filter, and diffusion-disc; on second thought, a K-1 filter and also a lens-hood. Then came an exposure-meter, a "wait-a-minute" device for tripping the shutter, a steel tripod, and a notebook—and my selection was complete.

Some sort of carrying-case became necessary. Finding nothing to suit the purpose, I built one out of light wood, which would hold everything but the tripod which, however, had a leather-case of its own. The case when completed was surprisingly small, measuring only 12½ x 7 x 6 inches outside, being opened in the middle like a Gladstone bag. On one side the camera rested, with sight finder attached, and the instrument held in place with a web strap, to prevent it from shifting around. In the other half of the case all of the other articles were nested, and a light, hinged cover, made to fit over this compartment.

I have been carrying this case for two months or more now. Each day when I step out to the car, some neighbors gaze wonderingly at the black case, and one in particular greets me with "Hello, Doc!" Yes, it's all of two months since I started to carry it. As yet I have never had to open it to get that extraordinary picture, but some day—!

Why I Am *Not* a Pictorial Photographer

PROF. FRANK A. WAUGH

THE advertisements make it seem extremely easy: "You push the button; we do the rest." And the Drug Store Clerk who sells the cameras is even more confident. "The whole mechanism", he says "is foolproof"—evidently meaning me. So, of course, I buy the camera and begin. Everybody else is doing it. I ought to be able to do what the others can.

It starts off well, too. There are innumerable pretty pictures before my eyes, some of which I have never noticed hitherto. At once I see one substantial advantage in owning a camera. It lies in the fact that the cameraman really sees the beauties of the created world more completely and in greater detail than the dumb commoner going preoccupied about his sordid business.

So the shutter clicks and clicks. It works with remarkable ease and smoothness. I feel the truth of the statement of the D. S. C., who said that it was easy, foolproof, and so on. (D. S. C. here does not stand for Distinguished Service Cross, though perhaps in Mr. Eastman's books it might. Here it refers to the Drug Store Clerk who sells the camera and the films.)

So I come back from the first trip with two rolls exposed, and I hasten again to the D. S. C. to have them realised. The best he can promise me is a 12-hour service. But that seems a long time to wait. The pictures won't be done till tomorrow morning. and the drugstore doesn't open till 9 A.M. D. S. T. (Daylight Saving Time).

At 8.45 I am on hand impatiently waiting. This is a new sensation—a fresh thrill. I am about to view my own pictures. I feel like an artist and am a bit proud of myself. Yet when D. S. C. brings out the yellow envelope of films and prints, I catch a slightly apologetic air. He is not so cocksure as the day he sold me the camera. And he says, "You have *some* pretty good ones; anyway, this will do for a try-out."

Not very encouraging, indeed! Yet some of the objects which I photographed were extremely beautiful, and I knew the pictures of them ought to put me in the running with the Pictorial Photographers. As the professional photographer said to the man's wife, "What's the matter with the photographs?"

"Well", said the D. S. C., pointing to No. 1, "this is well lighted and properly exposed, but you aimed too high".

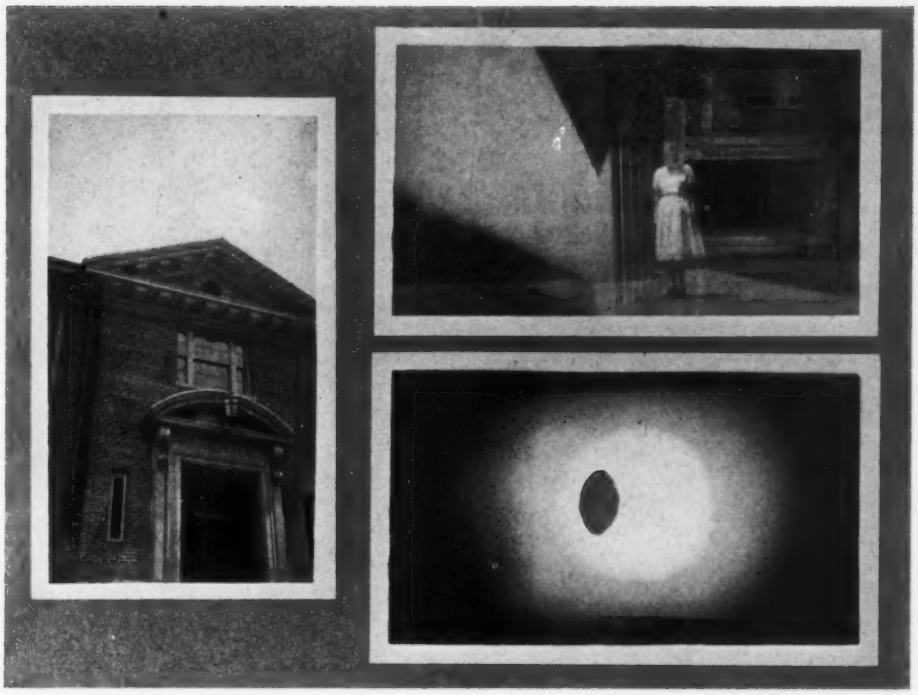


FIGURE 1

FIGURE 2
FIGURE 3

PROF. FRANK A. WAUGH

"Indeed", I replied, "my aim was the highest. I aimed to be a Pictorial Photographer".

"But your camera wasn't level. You pointed upward."

"Yes, indeed, I aimed at the center of interest. I have already had some lessons in art and I know that the center of interest should come in the center of composition."

Then the D. S. C. lectured me for half an hour, explaining why my good art theory wouldn't work and why his foolproof camera required a lot of plumbing and leveling, like a theodolite, before every snap.

Then the disgusting D. S. C. pulled No. 2 out of the yellow envelope. "Here you evidently had a good idea", he said. "In fact, two of them."

This time I was truly crestfallen. I could see I had made a mistake, though the advertisements, the catalogs, the book of directions, and the D. S. C. had all failed—completely failed—to warn me about it. And here was the one picture I most wanted—the one of Amy! My heart had been set on having my first picture one of Amy. I had planned to have an enlargement made to give to her for her birthday. Frankly, I think the world of Amy, and if somebody else had mussed her all up like this I would have biffed him. Yet here she had been dragged all around the yard, complicated with the landscape, a flight of stone steps piled on her chest, and her pretty face all beaten up with brick and mortar. Terrible! And nobody to blame but myself! And I a Pictorial Photographer? Not much!

"Ye Heavens!" I cried. "Is this the worst? Are they all like that?"

"Yes and no", said the D. S. C. evasively. "In this case you made quite a different mistake, though still nothing original."

XUM

And he handed me No. 3. I may as well admit that he had to explain it, too. I didn't remember photographing anything like that. It seemed to present a sunset or a moonrise or some other astronomical conjunction. I had often seen these moonlight photographs, and I had planned to take up that branch later; but apparently this clever camera had got ahead of me. It had read my inmost thought and had beaten me to it.

Still, I couldn't adopt this inadvertence as an example of my Pictorial Photography. I couldn't arrange it in any manner to make it look like a salon picture, wild as some of the salon pictures are. And I couldn't find any title that would fit it. On the whole, I gave it up, and with it gave up my ambitions to be a Pictorial Photographer.

It appeared to me that something besides a good camera is required. Hard work, long and varied experience, careful study, brains —perhaps that's what excludes me.

The Photographic Adventures of Bert and Ray

XVII—The Raybert Pictorialists Try Portraiture

NEIL WAYNE NORTHEY

WHEN Bert and Ray met for their regular "camera day" activities the first Sunday in October, the weather was not at all promising for outside work. Overhead hung heavy clouds, which threatened to empty a load of snow into the teeth of a raw wind.

"Zowie, I had to get out the old windbreaker this morning", said Bert, as he met Ray in the workroom in the basement of Ray's home.

"Yeh, it doesn't look like much of a day for picture-making", said Ray.

"Tell you what I was thinking we might do to-day", said Bert.

"What?"

"We might try portraiture. We can make portraits of your folks this forenoon, and this afternoon I will have my folks ready for the cameras."

"That's a great idea!" exclaimed Ray. "I'll run right up and tell the folks to dress up a bit while we are getting our outfits ready."

In a moment, Ray was back down in the workroom. "Are we going to need anything special?" he asked.

"Well, I suppose we should have a reflector for the shaded side of their faces", replied Bert. "And if we can find some thin white cloth, we might make a diffusing screen for the light-side."

"We can make a diffusing screen out of some of this cheesecloth that we stretch between chairs to dry our prints on", said Ray. "I can make a frame about four feet square in no time and tack some on it. I guess that would be about the right size."

"I wish we had a large piece of white cardboard for a reflector", said Bert. "I don't suppose you happen to have a large piece of drawing-board?"

"No, I don't, but I have a fairly large piece of white oilcloth which we might tack on another frame."

"That will be good", said Bert. "You make the screen and I'll make the reflector."

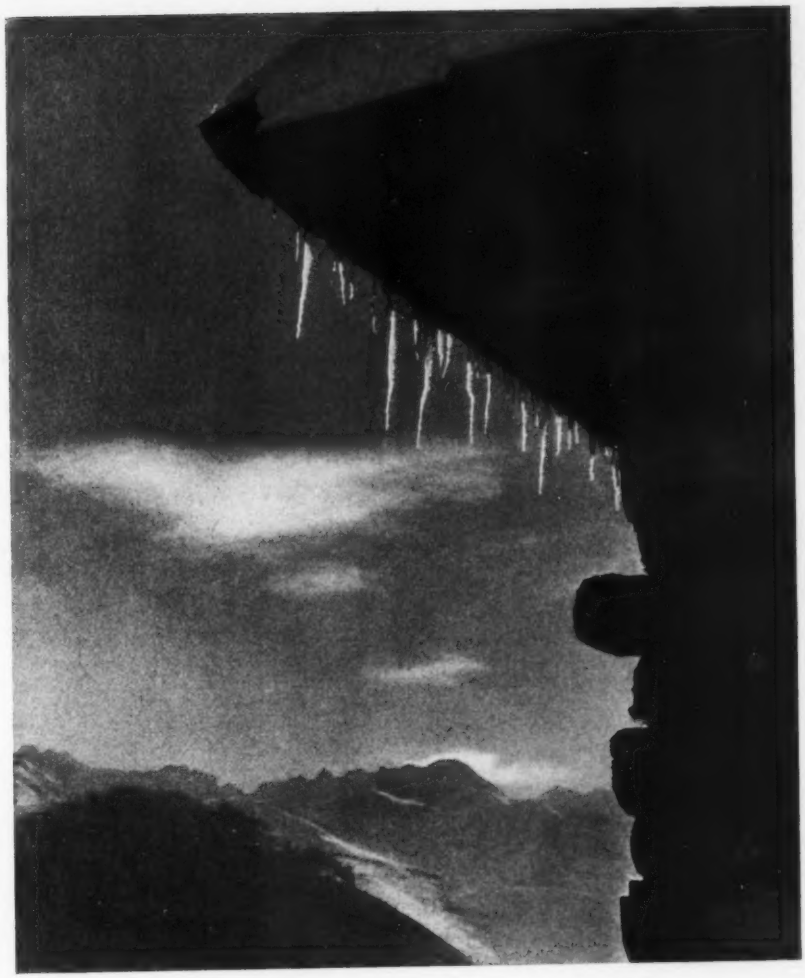
Soon there was the sound of hammer and saw as the boys went to work on the accessories. "What do we have that will do for a background?" asked Bert between hammer-blows.

"I believe I'll just make straight home portraits and not use a background", said Ray. "I should rather have pictures of my family in their home surroundings."

"Since you mention it, I believe I should, too", said Bert.

"I want a natural picture of Mother at work by her sewing cabinet, and a view of Dad reading by the fireplace, and one of Sis sitting at the piano, and I'll take Freddie playing with his mechanical building set. They'll probably not be very 'classy' pictures from other people's view, but they'll be nice record pictures for the family to keep. And while I'm at it, I want a picture of you at work here in the darkroom", said Ray.

In a short time, trays and other paraphernalia were arranged in natural order on the workroom table, the red glass was removed



ICICLES
DR. A. M. WIECZOREK
HONORABLE MENTION—MISCELLANEOUS

from the ruby-light, so that the light would shine full on Bert's face, and, with the help of a small flash from their Marshall flashlight, the exposure was made.

"Now I want one of you", said Bert, and the two boys changed places.

"Well, I guess we are ready to go upstairs and begin operations", said Ray.

"Suppose you make the exposures of your family, and I'll act as your assistant and adviser", suggested Bert. "Then this afternoon you can help me and I'll make the exposures of my family."

"That suits me", said Ray. "You arrange the reflector and diffuser while I do the focusing. I can watch the groundglass and tell you when they are set right."

"Let's take along the Marshall flashlight. It will be helpful in reducing the length of exposure, and we might need it to light the shaded side of faces instead of using the reflector", said Bert.

"Yeh, the light isn't very strong today", said Ray.

Soon the boys were busy making the pictures that Ray had outlined, and after they were made they set to work figuring different poses for each member of the Wentworth family.

"I believe before we quit, I'll make a silhouette of each", said Ray. "Let's stretch a white sheet across this doorway and place a chair in front of it for them to sit on. Then when I'm all ready with the camera, you can set off a small flash back of the sheet."

Thus the picture-making continued, and almost before the boys realised it the forenoon had passed.

"I'll see you in about an hour", said Ray, as Bert hurried home to luncheon and to advise his family of their impending ordeal.

The afternoon was spent in much the same way that the forenoon had been, except that Bert operated the camera, while Ray acted as assistant and gave advice regarding exposure, arrangements of subjects, and other details.

That evening in the darkroom, in the basement of Ray's home, where the boys did their developing, the results of the day's work became manifest. As the amateur home portraitists took the negatives from the fixer one at a time and held them in front of a light, each negative was given a cursory criticism, based upon what could be seen before a print was made. Naturally, not all of the negatives were good; neither were all of them failures.

The biggest problem, as everyone knows who has attempted at-home portraiture, was the matter of lighting. As each exposure had been made in a different place, many of them in different rooms and at varying distances from windows, the light-intensity and the angle at which it had reached the subject was different for almost every exposure.

"Here's one that is too flat", said Ray, as he held up the one he had made of his sister sitting at the piano. The light had entered from windows almost directly in front of the piano. "I wish that I had made a straight flashlight of it", he said.

"Yeh, and here's one I made of Dad that is just the opposite—too much contrast", said Bert. "Now if I had moved him away from the window a few feet farther, and placed the camera more on the lighted side, it would have been much better."

"I think you should have given it more exposure, also. You see there is very little detail in the shadows", said Ray.

Now, although the boys had used their exposure-meters when estimating the exposures, there were certain factors which annulled to a certain extent their calculations. For example, when the flashlight was used to shorten the exposure time, more or less guessing was necessary regarding how much powder to use in connection with the natural light. Then there was the color of the walls and surroundings, and there was the difference in light-intensity caused by passing clouds, which sometimes darkened the sky more than usual just at the instant of exposure.

Sometimes the boys saw where an article of furniture or a picture on the wall had caused unpleasant reflections, which they had not noticed at the time; and in several views where the subjects had worn glasses, the photographers had failed to turn the subject's head in such a way as to avoid glare. In one picture that had been made with a window in the background, there was a large patch of halation.

"Well, it looks as though we needed some more experience in at-home portraiture", said Bert, after all the negatives had been examined.

"Yeh, there's a big chance for improvement", said Ray, "but I think we did not do so badly. There's not one in the lot that will not produce a fair print after it is doctored a bit, and especially if we are careful to select the right kind of printing-paper to

suit each negative. I am not satisfied with the results, but I am glad to have these negatives to keep until I can make better ones."

Bert was thoughtful for awhile. "You know", he said, "I believe we could make some money for college this winter making at-home portraits in our spare time, if we had a little more experience".

"There's no doubt about it", said Ray, "but I think we should have a regular portrait lens".

"I'll tell you what we should do", said Bert. "Let's go fifty-fifty on a portrait lens for your view-camera, and a few accessories like a folding screen, and practice up a bit: then we can work together this winter and help to make expenses."

"That's a go", said Ray. "Perhaps Mr. Harley will sell us a portrait lens and let us pay for it as we use it."

And so the boys took another step into the world of photography.

(To be continued)

The Making of Pictures by Photography

Number Two

CLARENCE PONTING

IN the early stages of a budding pictorialist, the fact that the portion of his print which represented the sky appeared as a blank expanse of unprinted paper mattered little. The print was, probably, quite small, and intended for insertion in an album, and in this size the lack of cloud-forms would not really matter.

It is when the print is considerably enlarged for exhibition-purposes, or home-decoration, that this omission becomes only too apparent. The large expanse of white paper immediately attracts the eye, owing to its being the highest light in the composition. Insert suitable cloud-forms, and the sky assumes its correct place in the composition; the eye notices that they are present, but does not linger longer on that portion of the print. It passes on to other beauties in the composition, absorbing the clouds as a part of the complete whole. Clouds in a landscape picture are as necessary to the composition as the portions forming the landscape itself; but before these can be introduced, it becomes necessary to learn how cloud-negatives should be made, and also the method employed to print them into the sky portion of a landscape print.

It is comparatively easy to retain in the negative any clouds which may be present at the time of exposure when making the landscape picture, if a panchromatic plate and filter are used. Provided that the clouds are suitable to the composition, this gives a true lighting of the landscape. In the majority of cases, however, the clouds will be unsuitable. As it requires expert knowledge of plates and screens to be able satisfactorily to record the landscape and clouds on the same plate, it is usually better to make two exposures, one of the sky and another of the landscape, later combining the two in one print. This especially applies when there are no panchromatic plates in the plateholders.

Whenever suitable clouds are seen, negatives should be made of them, even if the negatives have to be stored for some time before a landscape is made with which they will combine. The exposures should be made under varying conditions of lighting, and at all seasons of the year, in storm and sunshine. Make them when the sun is behind the clouds; with the sun behind the camera; when lighted by the sun at the left, and also at the right; when the sun is high in the heavens, and when it is low. Get them when a storm is blowing up—even when it is raining! It is impossible to have too many cloud-negatives. You may never use them at all; but if you have a number, there will almost certainly be one which will be suitable for every landscape exposure you will make.

A cloud-negative is a comparatively simple thing to make, if it is remembered that such a subject requires roughly a tenth of the exposure which would be given to the landscape under existing conditions of lighting. Cloud-negatives may be made on any negative mate-

XUM

rial, slow or fast, provided the exposure is approximately correct; but the finest negatives are obtained on moderately rapid orthochromatic plates used in conjunction with a filter, increasing the exposure by six times. With such a plate and screen, the exposure for most clouds, when the sun is shining, works out at 1/50 of a second at F/16 at all seasons of the year. Toward sunset, and for well-marked storm clouds, the screen may be omitted, and an exposure of 1/100 of a second given, at the same aperture. Although these exposures can only be approximate, it is surprising how few failures result, on the whole, if the suggested exposures are adhered to. I never trouble to work out the exposure times by means of a meter, simply setting the stop at F/16, slipping on the filter, and releasing the shutter at 1/50 of a second. By so doing, I know that my cloud-negative is secured, unless something unexpected happens, such as a faulty plate.

The negatives are developed for only half the time required for a landscape negative—the time usually runs from one and a half to two minutes, this depending on the type of sky. The negatives will appear as mere ghosts when viewed in the hand, but will be filled with subtle gradations when laid on white paper or projected in the enlarger. The camera should not be unduly tilted when making such negatives, and a portion of the landscape may be included to prevent the absurdity of printing upside down.

Having obtained a number of these cloud-negatives, they may be printed into one or more landscapes, as desired. Very often one negative will serve for many scenes, as the whole portion of the cloud-negative will rarely be utilised. The negatives may also be used reversed when printing with enlarging lantern, if by so doing they better fit the composition, or if the lighting in their correct, or unreversed, position, is incorrect for the picture into which they are being introduced. For this reason it will be found that the smaller clouds are more serviceable for printing in than are the more attractive large white ones, which may only be useful for one picture. Record a few of these celestial snowdrifts, by all means. They are extremely useful for printing into landscapes where there is little landscape, such as pictures of the broad open spaces in which America appears to abound, or the example seen in the print illustrating my article in the previous month's issue of PHOTO-ERA MAGAZINE.

Exhibition pictures being of a large size, the combining of the two negatives will be done by projection printing through the enlarging lantern. When a negative is projected and printed on a piece of bromide paper—from a negative having an opaque sky, of course—it will be realised by the merest beginner that the sky-portion of this undeveloped print, being protected from light-action by the density of the silver deposit on the sky-portion, is still capable of receiving an image. It is in exactly the same sensitive condition as it was before it was removed from the package. If, therefore, the landscape portion—which has already received an exposure—can be covered, and protected from further light-action, while projecting the image from another negative onto this unexposed portion of the paper, the image of the latter can be recorded on the still sensitive paper. Nothing, therefore, could be simpler than to project the image of a negative containing clouds onto this white portion, shielding the landscape which has already received an exposure during the time that the cloud-negative is being printed. This will be only a matter of a few seconds, due to the weak density of the cloud-negative.

That, briefly, is all there is to introducing a cloud into a landscape print. Simple as it appears, it is not so in practice. The difficulty lies in the shielding of the landscape portion during the exposure of the cloud-image. The beginner's first attempts usually result in a harsh line of demarcation, which makes the double printing evident. This can be overcome by allowing the cloud-image slightly to encroach on the horizon line of the landscape already printed, vignetting, or shading this in, by means of a card held between the lens and the bromide paper; the card, of course, being kept on the move all the time. The over-printing will be so slight as to be invisible in most subjects. Where it is desired to introduce a sky into a subject in which the horizon is of a light tone, or the clouds have to be printed over a white building projecting into the sky, a rough mask will have to be used to prevent light-action on these parts, or the water-color masking to be described in a later article of this series.

One method of obtaining such a mask is to project the landscape negative onto a piece of thick white paper, or card, the same size as the proposed enlargement. On this the outline of the horizon is roughly sketched with a soft lead-pencil. If the white paper is

FIGURE 1 CLARENCE PONTING

Clouds correctly fitted

FIGURE 2 CLARENCE PONTING

Clouds overprinted and hard line formed through mask not being kept on the move

fairly stout, when the portion above this line is cut away it will give sufficient protection for the landscape, if used as a mask. Where the exposure of the cloud-negative is likely to be prolonged, cardboard should be used; or the white paper may be placed over a sheet of black paper. If the two are then cut at one operation, a duplicate mask will be obtained in the black, opaque paper.

I prefer to make the mask from an actual print made on a cheap, double-weight grade of bromide paper, or some which may have been fogged, or deteriorated through being kept too long. This print, which will give a rough idea of the exposure required for the landscape, is developed and fixed, rinsed in water, and rapidly dried. The sky-portion is then carefully removed by means of a pair of small scissors, when it is ready to use as a mask. It may be employed as it is, or by roughly pasting it onto a large sheet of glass—a dab of paste here and there will be sufficient to hold it in position. Such a mask will ensure a close fit between the cloud and landscape.

A great saving in materials is effected when making combination prints if test slips are used to determine the exact exposure required for the two negatives. The exposure should be just sufficient in each case to give a sufficiently strong image when developed right out. If the exposures are not exactly correct in this respect, the clouds or landscape portions will develop in an irregular manner and one or the other will become too deep in tone before development is completed.

So much for the method of combining a cloud with a landscape negative where the sky-portion is opaque. All negatives are not so accommodating. Some allow the sky-portion to print through either with unsuitable clouds or a dull, uniform tint of gray, being a correct color rendering of the blue, cloudless sky which was present at the time of making the exposure.

Before a cloud-negative can be printed into such a sky, that portion of the landscape negative must be made opaque in order that the printing paper may remain unaffected by light-action. This is done by what is termed "blocking out", and consists of carefully painting over the semi-opaque portion representing the negative sky with an opaque of nonactinic water color, applied with a very fine brush. If the horizon line is clear-cut, this may be done on the film side of the negative. If, as is probable, the distance is slightly out of focus, the blocking out should be done on the glass side, in order that the sharp, hard line caused by the paint may be vignetted, or softened by the thickness of the glass during printing. As, however, the sky-portion of the average negative usually allows very little light to pass, this blocking out should not be resorted to unless absolutely necessary, for it requires a certain amount of skill to block out a sky without the handwork being apparent in the print. Where the sky-portion is not excessively thin, the sky may be made to print white by interposing a rough mask during the printing; only in this case the masking will be of the sky, and not the landscape, as when printing in the cloud.

The combining of clouds with a landscape is not a matter lightly to be undertaken. Like everything else, it requires a certain amount of skill in manipulating the two exposures so that they develop equally. This can only be ascertained by the use of test strips, although this will be unnecessary when making duplicate prints at a later date, if the number of seconds required is marked on the respective envelopes. The cloud-negative envelope should always be so marked; for, if a constant stop is used, the exposure will always be the same with the same brand and speed of paper, for the same-size enlargement, even when combined with a different landscape negative. Cloud-negatives being exceedingly thin, it may be necessary to stop down the lens of the enlarger in order to prolong the time of printing, so that the masking card may be kept gently on the move all the time. This cannot be done during the three seconds required by my negatives with a stop of F/4.5 in the enlarging lens. Stopping down to F/8 increases the exposure to six seconds, which gives ample time for the manipulation of the card. As this stopping down may unduly sharpen the cloud-image, the enlarger should be put a shade out of focus when used at full aperture.

It being impossible to see where the horizon line of the printed landscape image comes when it is printed, this can be roughly determined by making a pencil mark on each side of the paper, while the landscape negative is in position. The cloud-image may be adjusted to coincide with these marks, any overprinting which may take place in an irregular horizon line being negligible unless this is very light in tone, when a carefully cut mask must be used.

A LITTLE HOME IN SAMOA — RAYMOND A. WOHLRABE

The Photo-Charm of the South Seas

RAYMOND A. WOHLRABE

LOOKING upon the chart of the Pacific, there are islands that are mere pin points of insignificance, if one judges the importance of them merely by their size. If the chart is large enough they will bear names—Samoa, Fiji, Tonga, Cook Islands, and Tahiti. And a larger chart will show these names to be the names of island groups, each of many islands.

Look at them more closely, visit them. Each island perhaps has a lip, and each is clad in palms and studded with mountain peaks that are blue and green and carved from rock by torrential tropic rain. The coral fingers of each reef frets to froth the blue of the sea. Each nook holds a story, perhaps, one reaching back into the folklore of the natives. Stories abound there of the days of the navigators who searched the seas for new lands—stories, in almost every island, of shipwreck—tales of men who came to be forgotten by the world that knew them. All of these, and the rank beauty of each bit of paradise flung out there on the desert of ocean wastes, make the charm of the South Sea Islands—a charm that appeals to the artist, to the writer, and still more strongly to the photographer.

For the amateur whose photographic equipment is no more than the ordinary, there is no land which offers a greater temptation to unwind spool after spool of film in the attempt to catch a little of that charm in the silver of it. A thrilling experience it is to turn oneself loose in this photographer's paradise and try to select the most beautiful bits of the beauty spread lavishly about. Each island group is characterised by certain types of scenery. The native life of one group might not appeal as strongly as the native life of another. And each group presents difficulties which must be considered before success can be expected. After one has learned to resist the temptation to photograph each graceful coco palm, each curly-headed native youngster, one can take time to consider what these peculiarities and difficulties are.

Generally, those precautions must be taken by the photographer in the South Seas that must be taken in any tropical region. A longer exposure than one-hundredth of a second must be given, if the usual stop is used, or the stop must be increased. Light, although one squints in the glare of a Samoan sun, does not have the effect upon the photographic film that it has in the temperate

XUM

zones. Films must be guarded carefully from moisture and from heat. Those supplied in tropical containers are best, and, after exposure, the film should be kept packed deep in the clothing in one's trunk. If one may choose the time of year when a visit may be made, choose those months which are the South Sea winter months—June, July, and August. Then there is less of rain and scorching sun and a stronger guarantee for photographic success.

Of Samoa, Fiji, and Tonga, Fiji is the first one reached. It is there the steamers from Auckland and Honolulu call, and there that one must transfer to an inter-island ship. Suva is the port of call.

Lucky it is that Suva greets the visitor first—lucky for Suva! The charm of all the rest of Fiji greatly exceeds what little charm this South Sea Island town possesses. But in spite of its lack of beauty, it furnishes much material for the photographer. Perhaps what little charm it has will be dimmed still more when the customs officer taxes you forty per cent of the value of the stock of films you brought along.

Suva is the port of entry not only of tourists but of gaudy calico, old-fashioned wares for island consumption, tinned goods, and phonographs, so that the modern South Sea Islander may enjoy the latest in jazz music. It swarms with curly-headed Fijians, who are a branch of a race closely resembling the Negro and differing markedly from the Polynesians who people the other island groups. You will cherish a photograph of the native policeman in white skirt and blue jacket. The cream of the whole police force stands proudly beneath the royal palms at the entrance to Government House.

But in the short excursions out around Suva you will find the best material. There is no dearth of grass houses. The little native villages along the Rewa River supply an abundance of them. Neither is there a dread of the camera among the inhabitants of those houses, as one often finds among natives of many foreign lands. In fact, one sometimes wishes, when they crowd and push to guarantee for themselves a place in the picture, that they possessed a little more of shyness. After carefully picking a particularly pleasing bit of landscape with a grass village in the foreground, it is not unusual to have to give it up as lost when that clambering horde of native youngsters plunge into the center of it just to satisfy an eager desire to have the tourist make the picture.

In the Fiji that lies out of Suva, beauty is as luxuriant as the vegetation of palms

WHERE TAHITI TOUCHES THE SEA — RAYMOND A. WOHLRABE

and ironwood and morning-glory that clothes each island. There are coves and inlets and the tall, jagged peaks of mountains which tropical rains have worn into grotesque shapes. There are placid pools which mirror perfectly and double the beauty that is focused on the film.

Southeast of Fiji lie the Tonga Islands. At the villages of Nukualofa and Haapai there is none of the mountain scenery, since they are coral islands and not of volcanic origin. Palm groves and native life furnish the game for your hunting here. In Vavau, mountain scenery predominates again. The channel leading to this South Seas town is dotted with islands that are almost perfect cubes, and each cube is clothed in palms. Close by are limestone caves opening onto the sea.

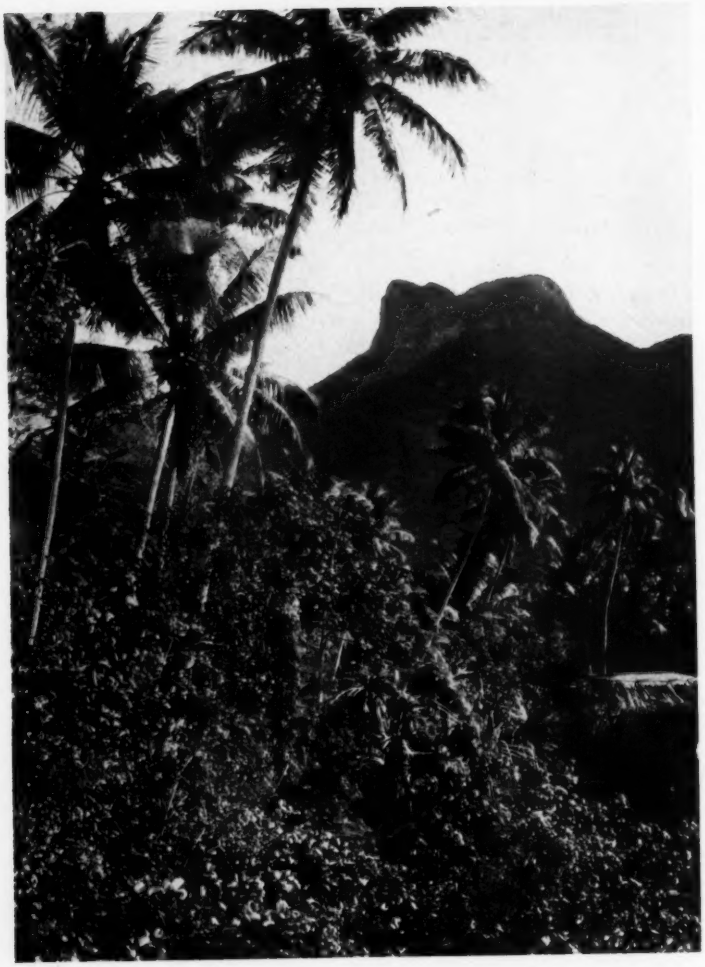
Samoa, which lies to the north of Tonga, is of another type. Samoan islands are not flat. Underbrush does not mar the attractiveness of palm clumps rising almost from the sea itself. Homes are more picturesque, much larger, the roof of each being a dome of the leaves of the sugar cane, and supported by a circle built of wooden pillars. The native does more of landscape gardening, if one may call it that, since he selects shrubs to grow about his home to add to its attractiveness. In Samoa, as in no other South Sea land, there is the opportunity for photographs of island dances, moonlight struggling through rustling palm fronds to fall in silver spangles on a quiet sea, and blue pools with rims of sand that is white and shaded by sunshades woven of tropical vegetation. In Apia, high above the splash of waves across the reef, far from the bay where a native dips an oar to push his outrigger along and giant sea turtles dive to explore the tinted coral gardens of the ocean floor, is the tomb of Stevenson. In Pagopago, if the "Rainmaker" isn't busy, all the charm of the setting of "Sadie Thompson", or "Rain", lies before your camera's lens.

Slip from Samoa to Tahiti. If jagged mountain peaks, green to the summit, poking at cloud puffs, vivid coloring, bright sunlight, quaint native life, and the gay life of the colonial Frenchman can constitute a photographer's heaven, then you will find it in Tahiti and the Society Islands. Papeete, its capital, is a little South Seas village that is a Paris away from Paris. Walking its streets are Tahitian maidens, French sailors, British traders, Chinese merchants, beach combers. Hedging those streets are stone walls and picket fences about the yards of houses that are light blue and white. Hibiscus in a hundred varieties of shape and color, each bloom a flower jewel, scrambles over the walls and fences. Paths are shaded by the flame trees and carpeted with the fallen petals of their blossoms. The atmosphere of mystery and quaintness can be caught with little effort on a photographic film. Each turn of its streets offers new opportunities. A gunboat is anchored in its harbor. A market place is heaped with fruits and flowers of the tropics and swarms with the country folk of Tahiti. Here the tourist notes the little white cathedral—French sailors in clothes that once were white and wearing hats that flaunt a gaudy red pompon—and across the channel, the grandeur of Moorea. To Moorea a photographer should never go—there is danger he will be satisfied to stay.

For the photographer, amateur or professional, who would go adventuring for loot that is beauty deposited in silver on a photographic film, who knows a little of the difficulties the tropics place between him and success, and who is willing to let experience teach the rest, I know of no place about the broad Pacific where that loot is so plentiful and where adventuring in quest of it is so pleasant as in the thousands of palm-clad, wave-lashed islands sprinkled so abundantly about that part of the ocean we call the South Pacific.

Each of the photographs used for illustration were made with a 3-A Eastman Kodak, rapid rectilinear lens, and Kodak film.

XUM



THROUGH A WINDOW IN A FIJI JUNGLE
RAYMOND A. WOHLRABE

EDITORIAL

Selling Photographs

THE matter of selling photographs is not always so easy and lucrative as some writers and publications would have us believe. By that we mean that the successful marketing of good pictures requires patience, attention to detail, and hard work. It is true that there are a number of amateur and professional photographers who are making a financial success of selling photographs; but these men and women who are doing so have learned that it is no easy task. Our reason for seeming to be a bit discouraging is due to a considerable number of letters which we have received of late from those who apparently hold the impression that selling photographs is an easy way to win fame and fortune. It is no easier to reach the top through photography than by any other means—if one is merely seeking to avoid hard work. With all due respect to the sometimes alluring statements seen in print, we know that the average, untrained amateur or professional photographer cannot make a financial success of selling photographs until he studies and knows his markets as well as an automobile salesman or a shoe manufacturer. We admit that occasionally even a beginner will obtain a truly fine, salable picture; but we are now considering the selling of photographs as a permanent all-the-year-round business

Our reason for not being more encouraging is due to a considerable number of letters and prints which have been sent to us from all parts of the country asking us for criticism and advice. With few exceptions, we could readily see why most of the prints were rejected. Those who made the pictures had not acquired the ability to be their own severest critics. They did not have the broad viewpoint which is so necessary in producing pictures of universal instead of merely local appeal. Very true, many of the pictures submitted for criticism were "pretty", "cute", and "different"—as their makers termed them—but they did not possess that indefinable something which, for lack of a better word, we may call "punch"—that something which wins the observer at a glance.

Thanks to the really great motion-picture productions of the past and the present, the general public—and that includes editors, too—has become unconsciously trained in the fundamentals of good composition, appropriate lighting, and appeal. Even in press-photography there is more attention being given to composition than ever before.

The market for good pictures was never larger than it is today. Also, there are more pictures being sent to these markets than ever before. The percentage of acceptances is still low; and, in many cases, the demand is never fully supplied, even when exceptionally high prices are offered. Some of our correspondents seem to lose sight of the fact that editors are looking for some specific kind of picture and that they are simply not interested in a photograph which does not meet their specifications.

There are available a number of very helpful market guides for the sale of photographs. A careful study of these, supplemented by a detailed examination of the newspapers and magazines which use photographs, will avoid many a bitter disappointment and, perhaps, lead to quicker recognition and success.

We value our friends and their loyalty; but, sometimes, when it comes to their appraisal of our pictures, it is wise to take their praise and enthusiasm with thanks but without too much dependence on their judgment. They mean well and are sincere; but they are not always a reliable indication that an editor will share their enthusiasm to the point of sending a check.

In conclusion, the point we wish to bring out is that the selling of photographs is not a hit-or-miss proposition, but a real business undertaking. Those who are willing to pay the price in initiative, careful preparation, attention to detail, and hard work will have all the odds in their favor and we are happy to encourage them in every way possible. Those who are looking for an easy way to make money and are unwilling to pay the price are doomed to failure. We cannot do otherwise than discourage them—for their own good, and in fairness to those who know the price and are willing to pay it.

XUM

OUR MONTHLY COMPETITION

Closing the 5th day of every month
Address all prints to PHOTO-ERA MAGAZINE, Monthly Competition
Wolfeboro, New Hampshire, U.S.A.

Awards

First Place	10 Points
Second Place	7 Points
Third Place	5 Points
Honorable Mention	4 Points

(*a*) The person having the highest number of points at the end of the year, December 15, 1931, will receive an engraved silver cup; the next two highest, smaller engraved silver cups; and the next five highest, one-year subscriptions to PHOTO-ERA MAGAZINE.

(*b*) *Those who win awards will receive Certificates.*

(*c*) Those who win an Honorable Mention Award and are *not regular subscribers, or have not been regular subscribers,* will receive PHOTO-ERA MAGAZINE for six months, with the compliments of the publishers.

(*d*) No competition-pictures are sold, exchanged, or the halftone-plates sold without permission, in writing, from the maker of the print. Proceeds of all sales, *excepting halftones,* go to the maker of the picture.

(*e*) All competition-pictures not returned are used to make up the PHOTO-ERA PICTURE EXHIBIT which is sent to schools, libraries, museums, camera clubs, and to responsible organisations for exhibition-purposes, *free of cost.*

Rules

1. This competition is free and open to all.
2. Not more than two subjects may be entered. *Composition, exposure, and photo-finishing must be done by the competitor.*
3. Mounts must not be larger than 16 x 20 inches. Prints may be mounted or unmounted.
4. Each print must bear on the back the maker's name and address, and the title of the picture, and should be accompanied by a letter, giving full particulars of date, light, plate or film, make, type and focus of lens, stop used, exposure, developer, and printing-process. Enclose return postage. Data blanks sent at request. *Entries which do not comply with this rule will be omitted.*
5. Prints receiving points become the property of PHOTO-ERA MAGAZINE, unless for special reasons. This does not prevent the photographer from disposing of other prints from such negatives after he shall have received official recognition.

Photo-Era Competition Cup

6. Unsuccessful prints will be returned only when return-postage at the rate of one cent for each two ounces is sent with data.
7. Prints should be carefully packed between two layers of cellular board so cut that the corrugations run at right angles to each other.

AWARDS—ADVANCED COMPETITION

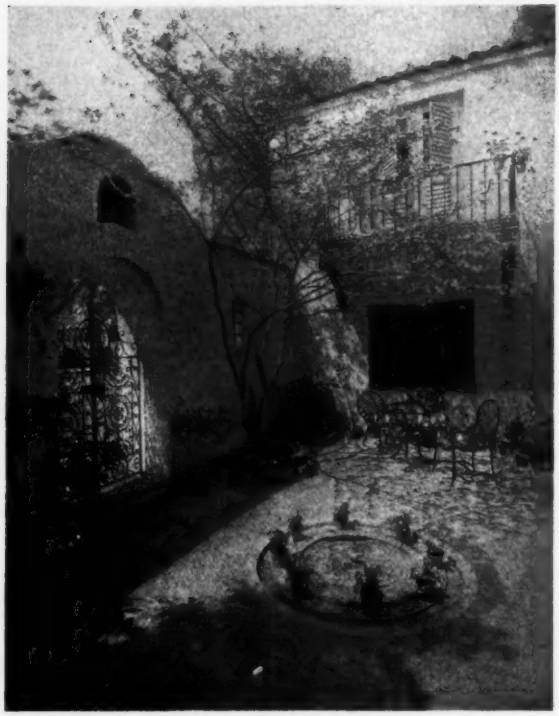
Subject—MISCELLANEOUS

Closed August 31, 1930

First Prize	William F. Happich
Second Prize	Howard G. Dine
Third Prize	Dr. Irving B. Ellis

Honorable Mention: Edward Andres; Beatrice M. Dine; Waldemar Glass; Zoltan Herczegh; J. K. Hodges; U. Stephen Johnson; Dr. Maximilian Kern; Sorab J. Kharegat; Hiromu Kira; Dr. K. Koike; Walter Lipkau; Gordon Ludwig; Kusutora Matsuki; William J. McCune; Lloyd McFarling; N. J. Nalawalla; Dr. B. J. Ochsner; Dr. M. A. Obremski; Margaret Parsons; Clarence Ponting; Thomas Scott; Dr. F. F. Sornberger; Dr. Max Thorek, F.R.P.S.; J. N. Unwalla; Dr. A. M. Wieczorek.

THE HARVEST MOON
WILLIAM F. HAPPICH
FIRST PRIZE—MISCELLANEOUS



Second Prize

ADVANCED
COMPETITION

MISCELLANEOUS

IN THE PATIO

HOWARD G. DINE

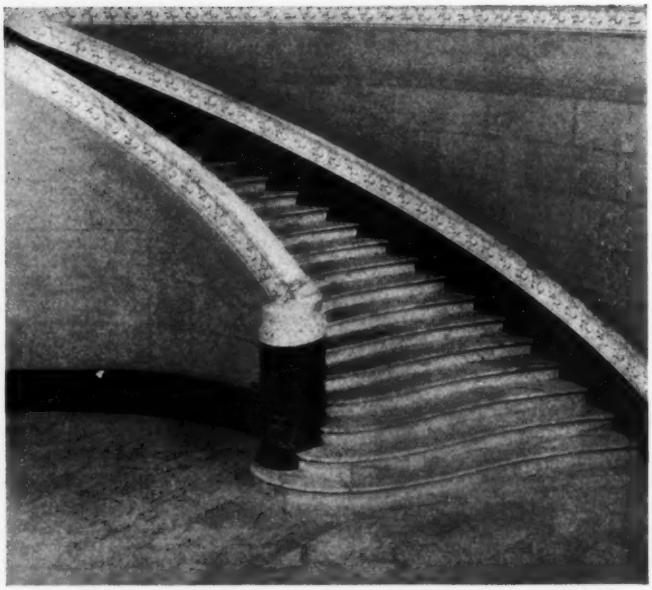
Third Prize

ADVANCED
COMPETITION

MISCELLANEOUS

STAIRWAY

DR. IRVING B. ELLIS



SUBJECT FOR NEXT COMPETITION

ADVANCED AND BEGINNERS

Subject for Competition—1930

"My Home." Closed January 31.
"Portraits." Closed February 28.
"Indoor-Genres." Closed March 31.
"Miscellaneous." Closed April 30.
"Commercial Illustrations." Closed May 31.
"Architectural Subjects." Closed June 30.
"Pictures of Children." Closed July 31.
"Miscellaneous." Closed August 31.
"Outdoor-Genres." Closed September 30.
"Animal Pictures." Closed October 31.
"Water-Scenes." Closes November 30.
"Miscellaneous." Closes December 31.

Important Changes in Competition Rules and Subjects

BEGINNING with the October competition, we have started an experiment in the matter of our competitions, the subjects and rules. For a number of months we have been sounding out our friends who like the competitions, and, as a result, we have put their consensus of opinion to the test. Beginning with October there is to be but one competition, entitled "Our Monthly Competition", and open to all. After the "Animal Pictures" and "Water-Scenes" subjects have been completed—see 1930 schedule—the subject every month will be "Miscellaneous". In order to include point-winning prints in the next issue after each competition, all prints in our hands on the fifth of each month will be judged on that date. Any prints arriving after that date will be entered in the following month's competition. Instead of awarding monthly prizes of silver cups or photographic supplies or books, we shall award annual prizes to those competitors who win the greatest number of points during the year. In short, we shall adopt the same scoring method that has worked so well in our PHOTO-ERA TROPHY CUP competition among camera clubs. Each award will count so many points. A "Competition Scoreboard" will be printed each month which will give the name and score of every contestant who wins an award. The person having the highest number of points at the end of the year will receive an engraved silver cup; the next two highest, smaller engraved silver cups; and the next five highest, one-year subscriptions to PHOTO-ERA MAGAZINE. This will not affect the present award of a six-months' subscription given to every winner of an Honorable Mention award, who is not, or never has been, a subscriber. The final date for presenting the awards will be December 15, 1931. This makes fourteen months; but it was thought best to make the awards at the end of the year, rather than during the year.

The contemplated changes will in no way affect the PHOTO-ERA TROPHY CUP competition for camera clubs, which began in September for the year 1930–31, and will end, as usual, with the June competition. The Fort Dearborn Camera Club has won the Trophy Cup twice and is, therefore, determined to win it the third time, since then the cup will become the permanent property of that club. There is every indication that the Trophy Cup race this year will exceed in interest any that have preceded it since 1925.

For a time there may be a little confusion while the change in competition rules and awards is being made known; but we believe that our readers will co-operate with us in giving the new program a fair trial. The new rules and awards are printed in full in this issue, and thereafter. Of first importance it is to remember that all prints for "Our Monthly Competition" must be in our hands on the fifth of each month, or they will be held over for the fifth of the following month. Those who are eager for keen competition with others are now offered an opportunity to prove their mettle, not so much for the awards as for the genuine pleasure of good sportsmanship.

A. H. BEARDSLEY.

AWARDS—BEGINNERS' COMPETITION

Subject—MISCELLANEOUS

Closed August 31, 1930

First Prize.....Hermann Uebel
Second Prize.....George Nelidoff

Honorable Mention: Carmine Albanese; Edward Bafford; Roland F. Beers; Esther M. Bell; James A. Bell; Edward L. Gockeler; Earl Gray; Dr. Kelley Hale; Lionel Heymann; J. Albert Hultquist; M. Itoh; R. R. Jarrett; Theo Kay; Arthur J. Lang; Dr. Davies Lazear; E. C. Lemon; W. Laurence LePage; Robert W. McKee; A. E. Moebs; Harold Nicholas; Edward A. Nusbaum; J. B. Priddy; Ralph Rex; E. C. Stuart; Harold Sommerville; Frank L. Weaver; Morris Wislin.

XUM

First Prize

BEGINNERS' COMPETITION

MISCELLANEOUS

LIGHT AND SHADOW

HERMANN UEBEL

Second Prize

BEGINNERS' COMPETITION

MISCELLANEOUS

ROMANCE

GEORGE NELIDOFF

OUR ILLUSTRATIONS

ERNEST H. WASHBURN

Doubtless our readers who have been following the interesting series of sketches under the general heading of "Why I Am a Pictorial Photographer" have noticed that a number of the well-known contributors have come from overseas and have found in the United States the inspiration or opportunity to make a name for themselves in pictorial photography. In the case of Nickolas Boris, we learn that he came to this country with an excellent foundation of artistic training which he obtained at Athens, Greece. Subsequently he became introduced to photography, and the better he became acquainted with it the deeper grew his love of the camera and its possibilities. Apparently he found in photography the outlet for his artistic aspirations, and as his skill increased he soon made a name for himself in many of the leading salons at home and abroad. We take especial pleasure in welcoming Mr. Boris to our pages because of his work, and particularly because of the inspiration which his experience can give to others who are following on. Again we are tempted to point out that the tremendous appeal of photography lies in the fact that it can be a science and at the same time an open-sesame to all the artistic beauty that a man or a woman may possess.

Data: "Port of Patras". Graflex camera, 3¼ x 4¼; B. & L. Tessar, 6-inch focus; F/8. Exposure 1/60-second, in May, P.M.; dull light; Agfa film; Rodinal developer; Velour Black enlargement.

To know, beforehand, what you really want and expect to result from your exposures, and to be able to get it in your prints—that is technical perfection. William S. Davis qualifies in these requirements, besides being a skilled artist, who is able to make good selections from the rich store which Nature has for those who can see pictorially. Besides being able to achieve preconceived results, he has the happy faculty of telling others, clearly and explicitly, how they may accomplish successful pictures. In his very informative article, he points his remarks with actual examples of his handiwork, proving that he practices his own preachings.

"Veiled in Fog", although not a masterpiece, is properly composed and makes its point. The drifting mist is plainly recorded. It should be noted that the artist has, apparently with deliberate intent, darkened the immediate foreground to assist the lighter parts, by contrast and avoidance of sameness.

"Anchored in the Fog" is a fine bit of marine work, which Mr. Davis loves and does so convincingly. A collection of his marines, which have been reproduced during the past decade or more, would form a veritable treasure-house. In the present picture, Nature provided a beautiful background, and the artist was clever enough to take a viewpoint which brought the vessel against it most effectively, contrasting the mast-heads against the lightest mass of clouds. Another subtle touch is the soft sheen imparted to the lower-lying bank of mist above the water. The darkly shimmering reflections of hull and spars supply a firm but unobtrusive foundation. The picture is one of Davis's best. Data will be found at the end of the article.

"Misty Weather" charms by its simplicity of arrangement and tonal quality. Such a subject would never be really "seen" by the larger number of camerists; yet how effectively Davis has used it to make a thing of beauty from an ordinary street scene! The presence of mist has prevented harshness of contrast between the branches of the trees and the sky, revealing their simple beauty in a decorative way. The strong, wet foreground and mysterious distance are pleasing features. The artist has skillfully prevented his diagonal lines from entirely crossing the picture, which would bisect it and consequently spoil it. The difference in tone between the three trees should not be overlooked. The nearer one is the key-tone of the picture. Data in article.

Mr. Davis has shown many pictures of the New York waterfront, and appears to have had ample opportunity to depict it in various moods. In "The City of Towers" he has seized upon an unusual condition, where several clouds of steam are blown out diagonally, making telling spots of light against darker-toned masses. Vertical and horizontal lines are nicely contrasted, and New York's well-known picturesque sky-line is given a touch of mystery by the weather conditions. Data are in the article.

Zoltan Herczegh's honorable-mention picture, "In Action", is very fine in tone-values, and the various lines and masses seem to be disposed in an advantageous manner. Naturally, the bright streams of water playing upon the burning structure, and the large cloud of steam, dominate the picture, as they should. The streams, particularly, which form strong diagonals, crossing and breaking up the unsightly rectangles. There is action aplenty in the group of firemen, which was happily livened by the white coat and helmets. The ugly, dilapidated and tottering wall is somewhat helped by the light steam behind it. A certain amount of spotting-down of disturbing bits of paper and other rubbish would be desirable.

Data: Made in Cleveland, Ohio, with Ihagee camera, 3¼ x 4¼; Zeiss lens of 13.5-centimeter focal-length; 1/100-second at F/8, in July, at 4 P.M.; bright light; Eastman Panchromatic film; Elon-hydrochinone tank-developer; Velour Black Plat, white matte enlargement.

The present scribe never sees good photographs of fish without resolving to go to the aquarium, barely three miles distant, and try his own hand

XUM

at fishing by camera; but he never goes. Nevertheless he enjoys and admires successful pictures of this class, such as the fine specimens illustrating Mr. James Moyne, Jr.'s article. His "Goldfish" has the actual appearance of gold, and the sweep of its tail indicates motion very graphically. The inclusion of the water-plant and pebbly bottom adds to the realism.

Data: 1/50-second at F/4.5, on Sensima Ortho plate, 500 H. & D. Taken in small tank, outside.

"Mackinaw Trout" is rendered effective by the dark background, relieving the sharply lighted fish. Their placement is good, and the differing positions informative. Data: 1/10-second; Sensima, 700 H. & D. "Montana Grayling" is equally interesting, but not so pleasingly informal as the others, although valuable as a record. We can imagine that much patience must have been exercised and many plates exposed to record such a good picture. Data: 1/5-second at F/4.5; Super Sensima plate.

In the case of Alice M. Heaven, it was a question of hats versus photography, with the latter well to the fore. Hats may come and hats may go, but good photographs are a joy forever—which is amply and ably proved by the groups of nice Brownie prints. "Wooden Gate" is an extra good record, while "Limestone Bridge" and "Old Hessian House" have certain pictorial tendencies. The latter is rather well placed, but it would seem that it might have been better to back away farther—if possible—and take the entire building the horizontal way of the camera. Perhaps there were good reasons for not doing so. There are no specific data, except that Velox paper is indicated.

Earle W. Gage has an effective print in "Sunset, Waskesin Lake". The horizontal lines of the beautiful clouds, shore line, and waves supply the reposeful element, which the ball of the sun and its reflected dash offset to a degree. This strong dash is quite central, but the dark bank of trees on the left exerts a pull that way, preventing serious damage.

Frank A. Waugh's humorous sketch is not without point and surely has a moral. To those who know the "prof", the humor is still more marked, but we refrain from "giving him away".

Dr. A. M. Wieczorek is an expert in depicting snow and ice, and many of our readers will remember his beautiful Polish snow-scenes, printed in these pages several months ago. They were landscapes, pure and simple, but at present the doctor has seen fit to depart from his former mood and show us his cards of another suit. And his print "Icicles" is no less successful and of wonderfully fine technique. To photograph icicles against the blue of the upper atmosphere and at the same time to record a fair amount of detail in a heavy shadow is a job for the most expert, and Dr. Wieczorek has accomplished it. For good measure he records cirrus clouds and distant mountains, and combines the whole in a fine modernistic-style composition, which would merit the honorable mention even were the technique less markedly superb. The dark mass is well spaced and amply supported by the mountain-mass in the lower left corner, while the open space between is very agreeably dotted with clouds, all of which are subordinate to the sparkling fringe of icicles. No data.

When Clarence Ponting tackles a problem, he leaves no stone unturned to sift it to the bottom, and, because of his technical skill, he is able to carry through his ideas to a successful conclusion, and, also, he has the ability to impart his knowledge to others, so that they may carry out his instructions. For these reasons we enjoy his articles, and they are "good to the last drop". In his article this month, he uses a lovely subject which he has portrayed in a very beautiful way. Such scenes always leave us feeling the better for having looked upon them. The clouds selected add a line which completes the curving zigzag line starting at the lower left and running along the nearer river-bank, where it is curved back, at the right, and follows the other bank to the trees, thence curving again over their tops and floating away in an undulating line over the clouds—a very beautiful line. Just one thing I would do, viz: trim about ¼-inch from the bottom, eliminating part of the foreground area, which appears somewhat large and tends to dwarf the beautiful trees across the river. There remains, in my opinion, as lovely a landscape as one could wish to gaze upon.

There is an old saying, "Workman, know your tools"; and it is surely applicable to Raymond Wohlrabe and his camera, which has globe-trotted with him so much, that he uses it with perfect accuracy to record for his future pleasure the scenes he has looked upon. He has become keenly selective and chooses, wisely, subjects which will interest others. These he weaves into his story for our enjoyment. "A Little Home in Samoa" is well placed and perfectly photographed. Although full of beautiful sunshine, it is nowhere harsh or glaring. "Where Tahiti Touches the Sea" is well selected, the low horizon giving a feeling of quietude and space. The foreground trees supply the needed accent, and the suggestion of vapory clouds is sufficient. "Through a Window of a Fiji Jungle" forms a fine panel. Here, again, the trees punctuate the scene, and some of them serve to set back the mountain peaks to their appropriate distance. A bit of cloud would have been acceptable, or a slight toning of the sky toward the top.

Advanced Competition

As future competitions are to be always miscellaneous, the present one is typical. It is more difficult to judge, but makes competition more open, or free-for-all, as nobody has to wait for his or her favorite classification.

William F. Happich has presented many fine pictures to Photo-Era Magazine readers, but none more ingenious or better executed than his well-merited first-award print this month. To a finely planned, decorative arrangement of cattails, he has joined a mysterious, cloudy background and a harvest moon which fairly glows with autumn spirit. Let no one say it is too large. Our imagination has magnified many a harvest moon to even greater dimensions. We congratulate Mr. Happich upon his beautiful picture and originality of method.

Data: Made on a table-top, in a room, by artificial light; Korona 4 x 5 camera; Collinear lens of 8-inch focal length, used at F/8. Exposed 10 seconds under K-1 filter on Eastman Portrait Panchromatic film; Amidol developed, and enlarged

on Velour black, Plat. Buff. Mr. Happich writes: "This negative was made with a double exposure; 3 seconds with daylight, much diffused, from the front; 7 seconds with the light of a 400-watt tungsten lamp coming through the background only. The background was an enlarged cloud-print on thin paper."

Winning awards has become a habit with Howard G. Dine. His work is so fine and his knowledge of composition so thorough that his work is outstanding. "In The Patio" is well composed as to lines and masses, in which the light and shadow materially assist, and the various textures are well represented. It is wholesome photography, with an artistic touch.

Data: Eastman view-camera, 8 x 10; Protar V lens, 7 3/16-inch; stop F/32; 1-second exposure, in June, at 10 A.M., in sunlight. Eastman Panchromatic, developed in A. B. C. pyro. Contact print on Defender Velour Black.

"Stairway", by Dr. Irving B. Ellis, is a good example of perfect photography. The various lines are well disposed, producing several areas of varying shape and size, according to the modern idea of pattern.

Data: Avus camera, 3¼ x 4¼, with Skopar F/4.5 lens of 13.5 centimeter focal length. Exposure, 3 seconds at F/8, in July, at 1 P.M., in good daylight, on Eastman Portrait Panchromatic film, developed in A. B. C. pyro, and enlarged on Eastman bromide.

We wish to remind our friends again that complete data with every print sent to our competition is of great value to our readers and is much appreciated by them.

Beginners' Competition

WHAT is a beginner? Apparently one who begins to compete in PHOTO-ERA Competitions. For, assuredly, the present prize-winners are no novices in photography. Herman Uebel is, without doubt, a student of pattern pictures and knows a good one when he sees it. If there is "cubist-photography", this must be it, as the principle objects are all cubical. A short exposure and deep screen have served to cut down the sky-tone and emphasise the contrasting lights and shades in the fire-brick, producing a variety of light and shade, in a catchy arrangement.

Data: Alpine camera, 10 x 15 centimeters, with Heliar lens, 18-centimeter focus, at F/16, with Agfa No. 3 filter. Exposure 1/50-second in March, at noon, in sunlight, on Ilford Panchromatic filmpack. Universal developer formula, from "Workroom Handbook". Vitava Projection paper, Grade N.

"Romance", winning second award, though not original in composition, is very well lighted and well photographed. The hands appear rather large in proportion to the head. A greater distance between lens and subject would prevent this. We feel that the model's expression is worried, rather than romantic. Eyes open and gazing upward at nothing in particular would seem more in line with romantic thoughts and expression.

Data: Korona camera, 5 x 7; Verito lens of 11½-inch focus, at F/11. Exposure one second, by artificial light on Eastman Portrait film; A. B. C. pyro developer. Print on Portrait Bromide paper from enlarged paper negative.

TRILLIUM — R. P. TAPPENDEN

XUM

THE EDITOR'S CORNER

Mr. Washburn Drops In

Not very long ago, we received a telephone message that our good friend and department Editor of "Our Illustrations", Mr. Ernest H. Washburn, was about to leave Boston for a few hours' visit to Wolfeboro and the Editor. We were delighted, and in due course Mr. Washburn arrived for a nice long evening of interchange of experiences and ideas. How we did talk! Before we knew it, the all-too-short visit came to an end. However, that evening the Editor became more convinced than ever that he had a true friend in Mr. Washburn and that the readers of Photo-Era Magazine were very fortunate to have such a man as Editor of "Our Illustrations". None of our readers need ever feel that Mr. Washburn is too busy to be interested or sympathetic. He is a practical photographer and is out making pictures whenever he has the opportunity. He is intimately acquainted with the problems of the beginner as well as those of the advanced pictorialist. He is one of us, and with us.

Competition Pictures to Be Judged on the Fifth of Every Month

We have been very much pleased at the response which we have received from our readers in connection with the changes in our competitions. There is a sincere note of true co-operation in the letters which we have received. It takes some time to make a change and to get a new program running smoothly; but considering the new schedule which we began with the October, 1930, number, we are having very few errors among contestants. We appreciate the evident friendly spirit with which the competition changes have been received and the desire on the part of all to give the new schedule a fair trial.

It was our intention to judge each month's competition so that the winning prints might be reproduced in the following month's issue, instead of three months later, as in the past. However, we were compelled to make a compromise because of the mechanical preparation required in getting each issue ready for press. It requires from four to six weeks to prepare, print, and mail each number of Photo-Era Magazine. This means that much preliminary work must be done long before the magazine appears. The engraver and the printer must have sufficient time to do their work well, after they have been provided with the necessary illustrations and text. Hence, for the present, we shall reproduce winning prints in the second month's issue, following the close of the competition. That is, winning prints in the November 5 competition will be reproduced in the January, 1931, number—not in the February number, as would have been the case heretofore. It should be remembered that the January, 1931, issue will be going to press on December 5 and that the December, 1930, issue must go to press on November 5—just when the competition pictures are being judged. Therefore, it should be evident that winning prints in the November competition cannot very well be judged, halftoned, and printed in the magazine all on the same day.

There's No Accounting for Tastes

Within the past few weeks we have been making quite a number of pictures in the Lake Winnepesaukee and White Mountain region of New Hampshire. On Saturday afternoons and Sundays we have driven over many miles of road in the quest of that elusive masterpiece of pictorial photography. How we have enjoyed these hours, out among the lakes and mountains! Recently the woodlands burst into the most glorious of autumnal colorings, which defy description and are the despair of the photographer who tries to catch some of this beauty on a color plate or film. After these trips we spent many hours in the darkroom, trying eagerly to bring out in an enlargement what we had seen. And then our friends wished to see the result of our efforts. We became deeply interested in the selections made by our friends—and likewise the rejections. Out of perhaps some thirty pictorial enlargements, there were not over five subjects that appealed to all. Every picture was liked by someone; but what pleased one did not appeal to another. It is well that it is so; for, otherwise, instead of disposing of thirty enlargements, we should have had twenty-five on our hands. We are glad that there is no accounting for tastes—even among the judges and the critics at photographic salons!

Convincing Evidence

The highly successful advertising convention just held in Germany brought out the inevitable crop of stories, of which the following amusing tale is one:

A persistent advertising canvasser, according to the *New York Times*, called upon a retail merchant, who declared that no one bothered to read advertisements.

At last the canvasser offered him a free advertisement just as a test. "You can say what you like about me. Nobody will read it", said the obdurate man. The canvasser arranged a three-line notice in an obscure column to the effect that the merchant in question wanted to buy a cat.

Four hours after publication an urgent message was received at the office of the paper, asking that the notice be withdrawn at once, as 117 cats had arrived in that time.

After recovering from his natural annoyance, the merchant saw the moral, and joined the select company who have learned what the printed word will do for their enterprises.

The Boston Mail.

THE MONTH IN APPLIED PHOTOGRAPHY

C. B. NEBLETTE, F.R.P.S.
Division of Photography, A.M., College of Texas

High-Frequency Photography

(Continued from October issue)

Two methods have been developed by which sharply defined images may be secured on continuously moving film. One method consists in the use of a number of matched lenses mounted in a circle on a disc which is revolved at the same rate as the film, so that the image on the moving film moves with the film and at the same rate for the duration of the exposure. In the other method, the multi-lens disc is replaced by a disc containing a number of reflecting mirrors so arranged that as the disc rotates the lens image is made to move in the direction of the film and at the same speed.

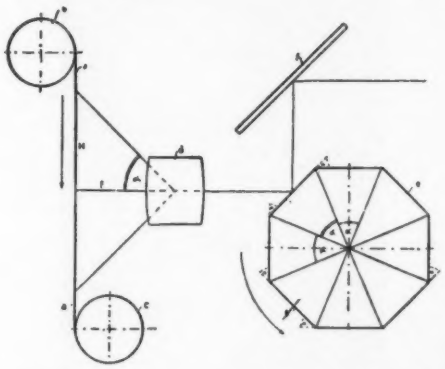


FIGURE 1 C. B. NEBLETTE

Principle of the Ernemann Zeitlupe high-frequency camera.

The principal high-frequency cameras employing matched lenses are the Heape and Grylls, and the Jenkins Chronoteine. Both of these have been described and illustrated in these columns already.

Instead of a multi-lens wheel, a rotating disc of reflecting mirrors may be used to produce a stationary image on continuously moving film. The first practical high-frequency camera of this type was the Ernemann Zeitlupe (time-magnifier), designed by Dr. Hans Lehrmann of Dresden about 1915. The construction of this camera is shown in Figure 1. The rays of light from the subject entering the window shown at the upper right are reflected downward to the rotating mirror drum by the fixed mirror shown to the left of the window. This drum contains a number of reflecting mirrors and rotates on its axis at a rate which corresponds exactly with the movement of the film past the film window shown to the left. The rays of light reflected from the mirrors of the rotating drum are imaged on the film by the lens shown to the left of the drum and between it and the film window. In the camera itself this lens is, of course, a highly corrected anastigmat, and not the simple lens shown in the illustration. The rotation of the drum causes the rays of light reflected through the lens (and therefore the image formed by the lens) to move past the film window, the rate of this motion depending quite naturally on the rate at which the mirror drum is rotated. When this speed is so regulated that the rate of motion of the image past the film window is exactly equal to the speed of the film past this window, it is evident that a sharp image will be secured on the constantly moving film precisely as when a multi-lens disc is used.

The maximum speed of the original Zeitlupe was 500 exposures per second, but a special Zeitlupe has since been introduced for ballistic investigations having a maximum speed of 1,500 exposures per second. This Special Zeitlupe is so constructed that three reflector drums are connected with each other, each of them with its own film; but the mirrors of the reflecting drum differ from each other by one-third the central angle of the two adjoining reflectors. The camera produces, therefore, three separate films which are successively exposed, as shown in Figure 2.

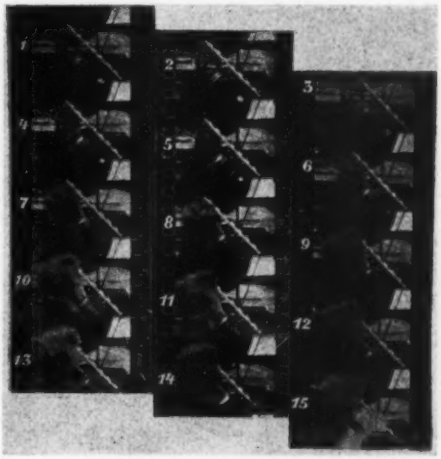


FIGURE 2 C. B. NEBLETTE

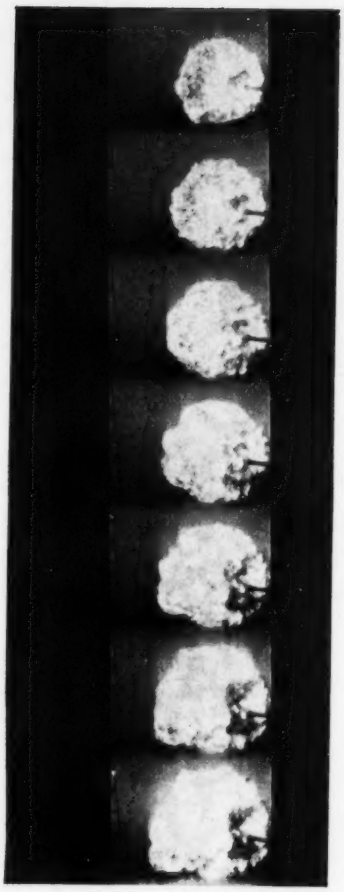
Showing how the rate of exposure is tripled in the Special Zeitlupe by the successive exposure of three films moving at the same speed.

XUM

A very high exposure rate can be secured in this way without increasing the speed of the camera mechanism; but a record of this kind made on three separate films successively exposed, of course, cannot be projected, and can be used only for the analytical study of the still pictures. A higher speed than that of the original Zeitlupe can be obtained by increasing the number of mirrors on the disc and the speed of the film. It is very difficult to increase the speed of the film, however, if the plan adopted in the Zeitlupe is adhered to. A higher film speed is not only dangerous, but it is difficult to design a mechanism that will insure uniform speed. These difficulties may be overcome by the use of a relatively short length of film in an endless band. This is the principle adopted by Rumpff in his high-frequency camera designed for ballistical studies. In this the number of mirrors has been increased and the film, in an endless band, is carried in a detachable magazine, the sprocket wheels controlling the motion of the film interlocking with the camera mechanism when the magazine is attached to the camera. A maximum rate of 10,000 exposures per second is obtainable with the Rumpff camera, which is very widely used for ballistical investigations. Figure 3 shows a record of a shell from a 16-inch gun made with the Rumpff camera at the Aberdeen Proving Ground, Aberdeen, Md. In the second picture the projectile is seen directly ahead of the cloud of gases about the muzzle; in the last picture it is passing through the steel tower to the extreme left. Its velocity is about 2,700 feet per second.

In designing a high-frequency camera for use in aëronautical research, Baron Shiba of the Aëronautical Research Institute of Tokyo Imperial University has increased the number of mirrors to 120; these are mounted in a steel disc in a manner which very closely resembles the blades of a turbine. The disc itself is finely balanced and capable of running at very high speeds without vibration. The film is carried on a much larger disc, the speed of which is very accurately synchronised with the disc carrying the reflecting mirrors. The disc carrying the film is so mounted that as it rotates it also shifts along its axis; so that the film, which is wound spirally around the disc, can be much longer, and many more exposures can be made at one time than is possible when the length of the film is limited by the circumference of the disc. The maximum exposure rate is 20,000 per second, and the camera has been extensively used in studying the flow of air around aircraft members, of which more will be said presently.

One of the earliest applications of high-frequency photography was, as we have seen, for the analysis of animal motion. Marey, at the Physiological Institute in Paris, made a large number of investigations of the motions of man in walking, running, and jumping; of horses and many other animals, and lastly of birds and insects. In the last-named field, his work was continued and greatly extended by M. Lucien Bull, whose apparatus and methods we have already described. The widespread use of the slow-motion picture for analysing the technique of famous athletes is a present-day development of this. With slow-motion pictures the element of "form",



Courtesy Aberdeen Proving Ground

FIGURE 3 C. B. NEBLETTE

High-frequency film of 16-inch projectile made with Rumpff high-frequency camera at the Aberdeen Proving Ground, Aberdeen, Maryland.

so important to success in any sport, may be clearly and simply demonstrated by the leading exponents, the champions in that sport. Not only may slow-motion pictures be used to demonstrate the technique of the champions, but film-records of the less experienced may be used to show in what details he is lacking in his attempt to emulate the form of the experts. Grantland Rice, the famous sports writer, foresees a new sport era arising from the widespread use of motion-pictures in athletic training. Slow-motion pictures of the leading experts in the various fields of sport are being used extensively by athletic clubs, schools, and universities, and by such national organisations as the U. S. Lawn Tennis Asso-

ciation, the Y. M. C. A. in their sports-training programs, and by other like associations. The introduction of motion-picture equipment for personal use in the home has made it possible for the golfer, or other sport devotee, to study his own game at home and compare it with the form exhibited by such an expert as Bobby Jones; or, if he or she is a tennis fan, Lacoste, Tilden, or Helen Wills. Slow-motion pictures are thus a means not only of disclosing the secrets of champions, revealing the form to be attained, but also the means whereby one becomes conscious of his own shortcomings and can set about to improve his game at the right spot. The result of this training is beginning to show already; as it develops further, we may expect a great advance in the standards of the various sports. There may be no greater champions than there were before, although it is more likely that there will be; but the average standard of performance is due to rise far beyond its present level.

Many of the secrets of form which have made possible some of the record-breaking athletic performances of modern times have been revealed by slow-motion pictures. The camera has shown, for example, how the American Simpson and the Canadian Earl Thompson were able to lower the 120-yard high-hurdle record from 15 to 14 2/5 seconds. Both had the trick of raising the trailing leg to shoulder height to clear the bar, and so rapidly and smoothly was this done that it was never noticed by visual observers and not even fully recognised by the athletes themselves!

Mention has been made of the use of high-frequency photography by Cranz and Bull for investigating the flight of projectiles. That this has become a very large field is shown by the fact that two of the cameras already described (the Heape and Grylls and the Rumpff) were designed solely for this purpose. A very considerable amount of work is being done by the various governments along these lines, but most of it is, quite naturally, kept secret on account of its military value.

High-frequency photography has also been widely used for investigations in aërodynamics. It is manifestly of importance to airplane designers to know the nature of the air currents set up by the various parts of a plane and the effect of changes in design on the character of the air currents around the various members of the plane. For this purpose, high-frequency photography is employed in connection with a wind-tunnel. A model of the newly designed plane, or, where possible, the actual part to be tested, is placed in the wind-tunnel, through which heated air is forced at the rate of ten to fifteen miles per second. Photographs are then made at a rate of several thousand per second for recording the movement of the air around the part being tested. Such photographs are of great value in studying the effect of different types of winds, or spots of various sizes and in various positions, the disturbances produced by various types of motors, propellors, and so on. Nor should the use of high-frequency photography in investigating motor-valve action, crankshaft whip, bobbin-action, the bursting of balloons, etc., be overlooked. High-frequency photography has played an important part in the studies being made at the Langley Memorial Aëronautical Laboratory, under the auspices of the National Advisory Committee for Aëronautics, on the Diesel engine for aircraft use. Photographic records have been made since 1924 of the start, growth, and cut-off of oil sprays from the injection valves of the Diesel motor, and the effects of varying injection pressure, chamber pressure, gas-density, and injection valve design, all of which have an important bearing on the designing of a high-speed, high-capacity, low-weight Diesel suitable for airplanes.

Another very important use of high-frequency photography is for the purpose of slowing down intricate high-speed machinery, so that the student can see clearly the character of the mechanism and the manner in which it functions. Films of this character are not only useful in teaching students and apprentices the principles of the mechanism and its proper manipulation, but also for research purposes and high-speed photography have been instrumental in solving a number of problems in the designing of high-speed machinery for efficient and lasting service.

Many more or less isolated and unique instances in which high-frequency photography has been put to work could be mentioned. For example, at McCook Field, Dayton, Ohio, a few years after the war, a number of the condemned war-time airplanes were sent crashing at full speed into a concrete wall to determine where fire breaks out in a plane after a crash, and how planes and motors might be designed to decrease the hazard. Ultra-rapid motion-picture cameras running at eight times normal speed photographed the wrecking of the planes, and much valuable information was secured from these films when they were projected at normal speed.

Interesting Technical Papers

During the past few weeks we have received a number of technical papers which have emanated from the Kodak Research Laboratories. Those of our readers who are interested in the technical and chemical investigations of methods and processes will find the following papers, issued in booklet form, well worth having: "Some Properties of Chrome Alum Stop Baths and Fixing Baths", Parts I and II, by J. I. Crabtree and H. D. Russell; "A Quick Test for Determining the Degree of Exhaustion of Developers", by Merle L. Dundon, G. H. Brown, and J. G. Capstaff; "The Surface Treatment of Sound Film", by J. I. Crabtree, Otto Sandvik, and C. E. Ives; "A Method of Testing for the Presence of Sodium Thiosulfate in Motion-Picture Films", by J. I. Crabtree and J. F. Ross; "A New Method of Blocking Out Splices in Sound Film", by J. I. Crabtree and C. E. Ives; "Photographic Progress", by Glenn E. Matthews; and "Film Development", by J. I. Crabtree.

"It is high time," said the reformer, "that we had a moral awakening. Let us arise in our might. Let us gird our loins. Let us take off our coats. Let us bare our arms. Let us—"

"Hold on!" exclaimed a tall, thin woman near the platform. "If this is to be a moral awakening, don't you dare to take off another thing!" *Contact.*

XUM

LONDON LETTER

CARINE AND WILL CADBY

THOSE of our readers who seek for photographic chat or information in our letters must be warned to skip this one, for we are at present away in Northumberland on the dividing line between England and Scotland, that wild strip of hotly fought over country in past ages. We are visiting and studying our greatest and finest relic of the Roman occupation—Hadrian's Wall.

Running across the narrowest part of England, from the Tyne to the Solway, there are about seventy miles of this stupendous undertaking, a stone wall eight feet broad and twelve feet high, following hill and dale over the roughest of country. With the passing of the centuries, much of the wall has been entirely obliterated, the worked stones of which it was constructed having been used to build houses, field fences, and the beautiful old lime kilns that were in earlier days such a striking feature of this countryside. But north of the little town of Hexham there is a stretch of very high land, and here, probably owing to its inaccessibility, the wall has been preserved for some miles almost as the Romans left it.

We know our forbears were no archeologists, and certainly did not expend their energies in preserving the wall except for the purpose of fencing their fields. So we may reasonably conclude that, where we see the wall intact, Roman hands did the laying of the stones of this formidable rampart, resigned either by Agricola or Hadrian in the first and second centuries of our era.

There are forts, mile-castles, turrets, and the vallum, all in some places still to be seen. But it is the wall itself that seizes on the imagination as one views it and walks along it on the very high ground at Housesteads or Seel Crag, noticing how it follows the line of the highest peaks right across into Cumberland, indomitable and apparently indestructible. It seems almost a live thing, and entity, a personality that time has not changed. Its *raison-d'être* is so apparent as one gazes over the wild country to the north, from which swarmed the invading hosts! It is really beautiful in its simplicity of construction and its use.

Near Hexham there is a small museum filled with relics of Roman times that have been unearthed near or on the wall, and close by are the well-preserved foundations of one of the largest forts. But even if there was no romantic Roman wall to draw us, this high Northumberland country through which the wall passes is among the most beautiful in England, with a character entirely different from the Lake District to the westward. There are great expanses of rolling heatherland, sharply broken by steep hills, with views extending for over twenty miles. England has many brands of air, bracing or relaxing, but none of them equals the wonderful tonic effects of this extreme north hill country where the population is small and scattered and to strangers so friendly and hospitable.

We learn from *The Times* that the seventy-fifth annual exhibition of the Royal Photographic Society has just been opened at 35 Russell-square, and it is interesting to note that there are some pictures by Mr. Geoffrey E. Peachery and Mr. Charles Mason of Hadrian's Wall. They are in the Technical Section, and are very good propaganda for the preservation of this great memorial of Roman times.

It is cheering to see that *The Times*, in its thoughtful and stimulating review of the R. P. S.'s exhibition, has reached the standpoint that "there is no moral virtue in straight photography", arguing that "in competent hands the artistic results are better—because more consistent—than when the record is "cooked". We heartily welcome this more tolerant view of the possibilities of photography advanced in our premier newspaper, for its attitude used to suggest that photography was not an art. And we entirely agree, for "cooked" pictures have often struck us as loosing much that photography has no equal in rendering, and gaining nothing in return.

Latterly we have been immersed in snapshot activities. All our recent visitors seem to have brought cameras with them and practised on our surroundings and persons. One fair guest, who had always rather cold-shouldered photography, surprised us with a sudden keenness for a Kodak. Why, we wondered, should she suddenly be so eager to get records of the day's doings? Eventually, however, the mystery was solved. It seemed that she had a beloved one in America, and these snapshots were to help the written word to keep him in touch with her life over here. We regretted our jeers at her efforts; for, after all, it was a charming idea of these thoughts taking the shape of little photographs—we may ignore how very poor some of them were!—and flying across the Atlantic, sure of a welcome and of being regarded with tolerant, non-critical eyes.

While this orgy of snapshooting was proceeding, we were begged to take a hand in the game, and great were the rejoicings when the experts consented to use one of the guests' cameras, a No. 2 Brownie, to be explicit, which had had two child owners, sisters who shared it—not, we considered, a very ideal arrangement. These children had been brought up on our reputation as photographers, and, before we got to work at all, they began quarreling over who should own the films of our future masterpieces. We too, we must confess, had thought our results might be rather striking and certainly very different from the examples we had seen. They were, too; but not quite in the way we had expected; for when the roll of film was developed and printed, our efforts only differed from the children's by being inferior. We had miscalculated the limitation of the lens and the view-finder. Of course, our photographic reputa-

(*Continued on next page*)

HERE, THERE AND EVERYWHERE

To ensure publication, announcements and reports should be sent in not later than the 5th of the preceding month.

Photo-Era Trophy Cup Race Is On

BEGINNING with the pictures entered in the September competitions, the PHOTO-ERA TROPHY CUP race is off to another start. As many of the camera clubs do not really get under way with their fall and winter activities until after October has arrived, the number of club entries is small for September. However, we learn from several sources that a determined effort is to be made to prevent the Fort Dearborn Camera Club from winning the race for 1930–31. This club has won the cup twice, and only one more victory is needed to obtain permanent possession of the cup. We are now entering the sixth year of this contest, and the trophy cup, with all the winners' names engraved on it, is becoming a prize worth having displayed in the clubroom.

First and second places in the competition for Advanced Workers, which was judged on October 5, were won by Kusutora Matsuki and A E. Rutenbeck, respectively. Neither one was a member of a camera club. Third place was awarded to Harold W. Cole, a member of the Schenectady Camera Club. In the Beginners' Competition, judged on the same date, first and second places were awarded to Helen Campbell and Fred Korth, respectively, neither being a camera club member. The Fort Dearborn Camera Club received five Honorable Mention awards; the Photographic Club of Baltimore, two, and the Orymca Camera Club, one. We extend a hearty welcome to the members of the Orymca Camera Club. Several entries were received from those whom we believed to be camera club members; but, under the rules, we cannot credit points to any club unless the contestant states his affiliation in writing on the print or in the data submitted with the picture. According to our records, the standing of the clubs, as of October 5, 1930, is as follows:

Fort Dearborn Camera Club	2½
Photographic Club of Baltimore	1
Schenectady Camera Club	1
Orymca Camera Club	½

Camera Pictorialists' 14th Salon

THE Camera Pictorialists of Los Angeles, Calif., announce the Fourteenth Annual International Salon to be held at the Los Angeles Museum, Exposition Park, Los Angeles, Calif., from January 1 to 31, 1931, inclusive. The last day for receiving prints is December 5, 1930. Further information may be obtained by addressing the Secretary, Camera Pictorialists of Los Angeles, Los Angeles Museum, Exposition Park, Los Angeles, Calif.

Terzo "Salon" Italiano

THE TERZO "Salon" Italiano D'Arte Fotografica Internazionale will be held under the auspices of the "Gruppo Piemontese per la Fotografica Artistica", from Saturday, December 20, 1930, to Sunday, January 11, 1931, inclusive. The last day for receiving prints is November 15, 1930. Further information and entry blanks may be obtained by addressing the "Segreteria del Terzo Salon Italiano D'Arte Fotografica Internazionale", Torino (108), Via Stampatori N. 6, Italia.

The Camera Enthusiasts of San Diego

THE First Annual International Salon of Photography (Fourth Annual), will be held in the Fine Arts Gallery, San Diego, under the auspices of the Camera Enthusiasts, from May 1 to 20, inclusive, 1931. Entry blanks may be obtained by addressing Miss Florence B. Kemmler, Secretary Camera Enthusiasts, 3150 Logan Avenue, San Diego, Calif. Last day for receiving prints will be April 5, 1931.

It will interest our readers to know that the Camera Enthusiasts are a group of serious workers who organised in 1927. They hold their monthly meetings in the Fine Arts Gallery, Balboa Park, the last Tuesday of every month, at 8 P.M., and visitors are heartily welcome. There are one or two photographic outings each month and interesting print criticisms. At the September, 1930, meeting the following new officers were elected: C. Eldon White, president; Leonard Fellows, vice-president; Miss Florence B. Kemmler, secretary; Miss Ruth Kilbourne, treasurer.

London Letter

(Continued from preceding page)

tion with the children was a pricked bubble; and, as they left the next day, we had no chance of retrieving it.

A little learning is a dangerous thing in Kodak photography. The Brownie is for the lay mind—for the person who knows nothing about photography and does not see why he should bother. It is the mind behind the Brownie that does all the bothering for him; so that, if he counts his feet and presses the button he will get his picture, provided, of course, that the sun is shining—it was our undoing that we had avoided a midday glare. Even when it had served us such a shabby trick, we were filled with admiration for the Brownie—its automaticness was almost uncanny.

"No doubt", said one of us, "these Kodak geniuses of photographic apparatus will invent a contrivance whereby a charge of flashlight is fired as soon as the button is pressed, so that the risk of underexposure would not exist".

"Or better still", replied the other, still smarting under our Brownie fiasco, "they may supply quicker lenses".

But after all, when the majority of snapshooters are so perfectly happy with the Brownie as it is, why should the Kodak geniuses bother about further inventions?

XUM

Nation-Wide Photographic Survey

Last year, professional photographers in the United States and Canada did nearly a quarter of a billion dollars' worth of business—two hundred and thirty-six million to be exact, the more remarkable because this figure does not include the annual volume of business of firms with chain studios.

Following this important fact comes an army of militant and bristling facts in the report of the recent nation-wide survey of the photographic profession, as announced at the Annual Banquet, during the Golden Anniversary Convention, by Marvin S. Knight, Vice-President of Erwin, Wasey and Company, the research counsel of The Photographers' Association of America.

The survey has given The Photographers' Association of America a marvelous background upon which to build its future plans. The exact opinions and wishes of hundreds of photographers regarding the new Association program, for instance, are definitely known *and will be followed*. There is to be no guesswork. The Association is planning to help photographers individually and collectively upon a sound, businesslike basis.

The purpose of this survey was succinctly stated by Erwin, Wasey and Company in its report. First of all, there was to be a real cross-section of the photographic profession as it exists today in the United States and Canada. It was also decided to go to the photographers themselves for constructive suggestions for the profession.

Realizing that success in any co-operative endeavor depends upon the good will of everyone, it was also decided to find out exactly what the photographers of the United States and Canada liked or disliked in the Association program of the past three years. Further, it sought to determine the attitude of the photographers toward The Photographers' Association of America and its proposed activities, as outlined by the investigators to those interviewed.

So, late last April, a group of trained young men and women started forth to interview hundreds of photographers. They visited thirty-five States and four large Provinces of Canada—British Columbia, Manitoba, Quebec, and Ontario. In each community, five different types of studios were called upon. Members and non-members alike were called on, the better to get a more complete and more scientific picture.

During the survey, 1,026 questionnaires were received, these being the reports from individual studio owners. Of these questionnaires, 991 contained enough information to be tabulated. The final general report contained information gained from 848 questionnaires. For the special report on Greater New York, 143 questionnaires were used. By tabulating the answers on the questionnaires, there have been brought together absolutely vital statistics about the profession, its business status, the likes and dislikes of photographers, and so on.

Through the survey, and from official sources, it has been found that there are 12,060 studios in the United States and 824 in Canada, making a grand total of 12,884 in the two countries. The total amount of business done by these photographers last year was $236,649,409.

From an actual graph of these sales, we are able to visualise more quickly what is occurring in the photographic industry. Annual sales can be also roughly divided into three classes. In the first class, we find that 45 per cent of all photographers have total yearly sales of $1,000 to $10,000, or 14 per cent of the entire annual photographic business; 49 per cent of all photographers have total yearly sales of $10,000 to $50,000, or 59 per cent of the entire annual photographic business; the remaining 6 per cent of the photographers have total yearly sales of over $50,000, or 27 per cent of the entire annual photographic business.

So it is readily evident that approximately one-half of all the photographers do one-seventh of the entire annual photographic business. There are approximately 12,000 studios in the United States and Canada. Therefore it is certain that 5,400 photographers together gross $34,602,252 yearly, or less than $10,000 apiece. Interesting also is the fact revealed that one-fifth of all photographers have total yearly sales of less than $6,000. Incidentally, the number of photographers in this class is smaller than had been estimated by various authorities.

In the second or middle class we find that one-fourth of all the photographers do six-tenths of the entire annual photographic business. In other words, 5,880 studios gross $136,710,462, or from $10,000 to $50,000 apiece yearly.

The third and last class represents only one-seventeenth of all the photographers, and yet its total yearly sales are one-fourth of the entire annual photographic business. It was found that 720 studios are grossing over $50,000 apiece yearly, making a total of $65,000,000 for this class. The number of studios in this class is much larger than had been supposed. The information comes directly from the International Headquarters of The Photographers' Association of America.

"The Charm of Color"

On a Sunday afternoon, a few weeks ago, we drove up to Chocorua Lake, which nestles at the base of Mount Chocorua, the "Matterhorn of the White Mountains". It has become our custom to time our arrival at the lake so that we may have the added beauty of the long afternoon shadows across the mountain slopes and their reflections in the water. The woodlands were aflame with their autumnal colorings and an Indian summer mildness added just a bit of haze along the margins of the lake. What a scene, and what exquisite colorings! Of course, we made a number of pictures; but how lifeless they would appear in monochrome! To be sure, we could have used Lumière or Agfa Color Plates; but we didn't have any with us. Then we thought of a little folder, "The Charm of Color", which our good friend Charles F. Nicholson sent us, together with other interesting material describing the Peerless Japanese Transparent Water Colors. With these easily applied colors, we felt confident that we could put into the dull monochrome print the life and color which we saw that beautiful afternoon at Chocorua Lake. Doubtless many of our readers have been in a similar position, and we suggest that they learn something about the pleasure and satisfaction which may be derived from coloring the Peerless way.

An Adventure in Flashlight Photography

To the Editor of Photo-Era Magazine:

There came a time when I, like thousands of other amateurs, arrived at the stage where I desired a flashgun to play with. Filled with hope, and having the root of evil in my pocket at the time, I visited the local photo-supply store. Clang! the cash register rang up the mighty sum of two dollars, and a positively fool-proof (?) lamp, together with powder and caps, were in my proud possession. I was ready for my first trial picture. One of my friends, knowing that I was an ardent amateur, invited me to make a flashlight picture of the local Improvement Club that very night. I, amateur that I was, accepted joyfully. Here was a real chance to display my powers.

When that momentous time arrived, I prepared to show one hundred people the wonders of night photography. Out came the gun, in went a cap, and on went half the bottle of flashpowder. The camera was set up and the shutter was slyly opened for the exposure. Click! went the lamp. No "boom"! A slight flush diffused my face. The trigger was now pulled twice. Net result—two clicks (plus pandemonium)! Lowering the lamp, I carefully inserted a new cap—the old one had been punctured right through. All this time, the plate was being exposed to several high-power lamps. Well, in went a new plate. All ready for another trial. This time, a little wiser, I pulled the release three times in rapid succession. Result—"all quiet on the western front"! The audience was now smiling. A few unkind snickers were heard. Someone shouted, "Use a match!" Hah! a brilliant idea! *Out* came a match from my pocket, and the head was carefully cut off. The whole box of caps was thrown away and the matchhead inserted in the cap's place. Everyone was still smiling. The lamp was gingerly elevated; then—"Boom*!!!*" hurrah! the lamp, or what was left of it, had gone off! The audience gaped openmouthed at my marvelous exhibition, but I got even with them later by selling them prints, portraying them gleefully smiling, confident that *MY* flashpowder was non-explosive!

Mr. Editor, may I say that this event was not a fairy tale, and I am always using match-heads now? I trust that the hints found in this short letter will sometime, at least, help some other brother amateur who has forgotten his caps, or who has had the same troubles I have had!

Anthony Glazko.

The Rolleiflex and Exploration

Burleigh Brooks, importer of fine photographic goods, 136 Liberty Street, New York City, writes us that he has recently enjoyed the visit of a very interesting explorer, Mr. Frank du Paty. For a young man, less than thirty, Mr. du Paty has already made quite a name for his lone travels, one of his best-known trips being through the Big Bend country of the Rio Grande. This trip was particularly fruitful of remarkable photographs of pictographs on rocks, animal and nature studies, and so forth. Many of these pictures are now in the hands of the National Museum of Canada, and in other museums.

His next trip, which started in September of this year, will be through the unknown and uninhabited region of the Virgin Mountains of Nevada and Arizona, in search of evidence, possibly in caves, of human occupancy a thousand or more years ago. In these lone trips over arid, desolate territory, much food and water must be carried, in addition to the usual necessities. It is obvious that the photographic equipment must be chosen with unusual care for its reliability, lightness, and dependability. Many of the photographs are made after days of most arduous toil and hardship, and the camera must be chosen which gives the smallest possible chance of failure. After careful deliberation, Mr. du Paty chose the Rolleiflex rollfilm reflex camera as his sole photographic equipment.

Mr. du Paty is of slender physique, Southern stock, and has those cold gray eyes so often found in men of his calling. We are promised an article and photographs on his return, toward the end of the year, and look forward very much to seeing them.

Roehrig's Oil Photo Colors

A number of years ago we witnessed our first demonstration of coloring photographic prints with oil colors. At the time we did not quite appreciate that colors must be transparent, otherwise they would simply cover up the image on the paper and the picture would then become more of a painting than a photograph. Roehrig Oil Photo Colors were just winning their way at the time of this demonstration; but today they are well known wherever reliable colors are sold. Improved methods have made it possible for amateur and professional alike to color prints with pronounced success. Oil and water colors each have their place. Some prefer one, and some the other; but the fact remains that both are adding immeasurably to the pleasure of photography. Interesting descriptive matter may be obtained by addressing Roehrig-Bielenberg Co., Inc., 39 Henry Street, Brooklyn, N.Y.

Fourth International Christmas Salon—Antwerp

We have a few entry-forms for the Fourth International Christmas Salon of Photography to be held at Antwerp, Belgium, December 21, 1930, to January 4, 1931. The last day for receiving prints is November 15, 1930.

New Nagel Camera Catalog

Recently Hugo Meyer & Company, 245 West 55th Street, New York City, became United States distributors for Nagel cameras and Hugo Meyer lenses. A number of changes and improvements have made Nagel cameras representative of the latest and best in modern camera design and workmanship. A careful study of the new Nagel camera catalog will prove most enlightening to those who may have thought that camera design could not be improved. A feature of this catalog is a very practical and helpful article entitled, "Hints for Good Pictures", which describes all branches of photography and suggests how best to photograph each type of subject. The Nagel cameras listed will cover virtually every

XUM

photographic requirement, and there is an excellent selection of Hugo Meyer lenses for all purposes. Of special interest is the Vollenda series of rollfilm models and the Recomar series in plate and filmpack models. This new catalog and further information will be sent promptly upon request to Hugo Meyer & Company.

Photographic Inspection of Milk Plants

We are indebted to one of our readers for an interesting little pamphlet entitled "Chicago's Health", which is edited by Arnold Kegel, M.D., Commissioner of Health of Chicago. In reading this booklet, we learn that photography is relied upon to present convincing evidence of unsanitary milk plants, and likewise to show the improvements made in the same plants after they have been modernised and made sanitary. The booklet is illustrated with photographs which show at a glance many plants before and after inspection and improvement. We refer to this interesting booklet by way of calling attention to one of the splendid constructive services which photography is rendering along lines which are far removed from the pictorial. It is this very universal application of photography to modern needs that makes it of outstanding value to the world today.

New Graflex Catalog

Probably there is no high-grade camera of American manufacture that enjoys greater popularity than the Graflex. For many years it has enjoyed a reputation of reliability and efficiency. Press-photographers, scientists, explorers, and pictorialists have all tested its powers and have agreed that a Graflex "stands up" under the most trying conditions. Admiral Byrd used a number of Graflex cameras in the Antarctic, and all of them functioned smoothly in the intense cold. The new catalog, which will be sent promptly by writing to the Folmer Graflex Corporation, Rochester, N.Y., is beautifully illustrated and contains a detailed description of the latest Graflex models. It is worthy of note that a number of the models may now be obtained with a variety of high-grade and anastigmat lenses, including telephoto lenses. There is a lens-combination to meet virtually any photographic requirement. There are a number of models of especial interest to pictorialists.

Rest and Relaxation

Of the many remedies in Nature's medicine chest, the commonest, and perhaps the most useful, is rest. Almost all disorders of the body make us feel "sick" and warn us to lie down. Sometimes the demand for rest is so insistent that we are overpowered by unconsciousness; but oftener, the hint is a more gentle one, which we too often tend to disregard. For example, people speak of "fighting a cold", by which they mean keeping up their usual activities to the last ditch. It is not inconsistent, nor a surrender, to fight a cold by resting; for by so doing we conserve bodily energy which may then be spent in overcoming the germs that are causing the cold.

Tuberculosis is one of those diseases that responds to rest. Here, two factors play a part. The lung tissue is diseased; it needs rest to recover. But every motion of the lung stirs up the injured tissue. Exercise, mental labor, emotional stimulation, in fact, anything which speeds up bodily activity increases the work of the lungs and thus gives them no chance to heal. The other factor has to do with what is called intoxication. In tuberculosis, as in many other diseases, certain poisons are excreted by the diseased tissue. These poisons, or toxins, are absorbed into the blood and give rise to fever, exhaustion, lack of appetite, discomfort, and other distressing symptoms well known to the consumptive. Every activity of the body increases this absorption, while complete bodily rest lessons it and so gives the entire body a chance to increase its healing powers. Experience backed by sound science has taught us that rest of body, mind, and emotions, as nearly as that is possible, is the most necessary element in the cure of tuberculosis.

Even in early stages of the disease, comparative rest is the best method we know of to prevent its further progress. There are many children whose lungs have been invaded by the tubercle bacillus and who have suffered some slight damage—so slight, in fact, that there are no symptoms and the child may appear as healthy and rosy as any other. Only by means of the tuberculin test and the X-ray, which pictures the slight damage, can the diagnosis be made. These children are not sick in the usual sense, but if, as they grow older, they are subjected to strain, the resistance of the body, which has thus far held the disease in check, may be so depleted that the sparks of the disease are easily fanned into a flame, and then consumption develops. That happens frequently during adolescence, when parental control is lessened, when boys and girls become absorbed in their studies and sports and dances, and when the rapid transition from child into adult makes unusual demands on the body.

Tuberculosis associations throughout the country have this year, by means of a vigorous campaign, brought to the attention of parents and teachers the necessity of finding out whether the sparks of the disease are already in the young child's body. During 1931, these associations propose to follow up this good work by bringing to the attention of older boys and girls and their elders the danger of overstrain, especially to those youngsters who already have the germs in their bodies. The slogan of this campaign will be "Tuberculosis, the Foe of Youth". Posters, leaflets, motion-pictures, lectures, and numerous other means will be employed to sound this note. The work is to be financed by the sale of Christmas seals.

H. E. Kleinschmidt, M.D.

After dictating for some time on a new subject to a new stenographer, the boss hesitated, whereupon the stenographer asked: "What is this stuff all about, anyway?"

To which the boss promptly replied: "I hardly know myself; it's just a lot of bunk—you're from Boston, so you know something about old Bunker Hill, don't you?"

"Yes", the stenographer shot back, "but this sounds more like Bull Run to me". *The Boston Mail.*

THE AMATEUR KINEMATOGRAPHER

HERBERT C. McKAY, F.R.P.S.

Differential Focusing

One of the most potent forces in the hands of the professional cameraman is the ability to use differential focusing to the fullest extent.

We know that if a lens of extreme aperture is focused upon a near-by object, the detail in the distance will be out of focus, forming a softly blended, formless background. Not only does this not distract the attention from the principal subject, but it serves to indicate a depth to the picture. Every close-up made with the kiné camera should utilise this possibility to the full. Instead of stopping down, a filter should be used to compensate for bright light.

With panchromatic film we have the three "K" filters, the "G", the "A", and the "F". The K-filters give full visual correction with increase factors of 1.5, 3, 4.5. The "G" is approximately 5x, the "A" about 12x, and the "F" about 25x. The "A" and "F" are red, and will give a peculiar correction closely resembling moonlight. The effect may be roughly judged by looking through the filter itself. (This is *not* true of all filters, nor for any but panchromatic film for which the factors are given.)

As the ordinary film will never be used by the worker who cares about the artistic quality of the results he obtains, the factors for it will not be given.

When a lens is set for a certain distance, an object at that distance will be sharply focused, while on *both* sides of this spot objects will be rendered with suitable sharpness. The distance behind the object is greater than that in front. If we attempt to use differential focus by using the scale, we shall have the background much sharper than necessary; while if we stop to calculate the depth of focus for the aperture and distance involved, we have a tedious mathematical calculation on our hands.

Differential focusing can only be done with full satisfaction by the use of some means of focusing the lens visually. This is a feature which has been added to some cameras by special order; but up to this time, no camera has carried this as a built-in feature. It is, therefore, with the greatest pleasure that we examined one of the new Victor cameras, which has a direct-focusing device built into the camera.

This device is not set in the gate, where it would give rise to danger of film fog. On the contrary, it is set in one of the secondary turret positions. The lens is focused visually by means of the prism and focusing microscope. The turret is then turned 120 degrees, bringing the focused lens into position before the film-aperture.

This new camera also has five speeds, 8, 16, 24, 32, and ultra. The well-known and reliable Victor governor mechanism maintains the exact speed with full-speed start and stop, without danger of failure or jamming.

The camera is a fitting companion to the Victor Master projectors, Models 3 and 3B. These projectors have the unique trip which stops the mechanism and cuts off the light if the loop should ever be lost. This is a rare occurrence, however, as the mechanism has two claws which pull even damaged film smoothly through the channel. The rewind, which rewinds one reel while the next is being projected, adds materially to the enjoyment of an evening's entertainment without the necessity of rewinding films for an hour or so after the show.

As the projector will give satisfactory projection up to 6 x 9 feet, and even larger, it is eminently suitable for club and school use, as well as being the projector *par excellence* in the home. The two Victor machines are proving more and more popular.

"Ag"

The whole structure of photography and of course motion-picture photography rests upon certain peculiar properties of silver—ordinary metallic silver. Silver coating upon the films we use makes them sensitive to light.

The celluloid of the film is not silver-plated in the ordinary sense of the word; but, if we unroll a strip of film, expose it to daylight, and develop it, we shall have the film bearing a thick coating of metallic silver, black in color—due more to the opacity of the mass of powdered granules than to actual color. The film which we use and make into a negative is only a film upon which the deposit of silver has been controlled as to quantity.

In making motion-picture film, celluloid sheets are coated with insoluble gelatin and then coated with the *emulsion* which contains the sensitive silver compounds. This emulsion is prepared by dissolving silver nitrate, potassium bromide, and gelatin in water. A chemical reaction between the silver nitrate and potassium bromide produces silver bromide, a salt of silver very sensitive to light. In actual practice the process is quite complex, involving repeated washings, ripening, and other operations, all tending to produce an emulsion of the utmost sensitivity, quality, and uniformity.

This emulsion is coated upon the wide sheets of celluloid, and, after it has become dry, the sheets are cut to proper width and the perforations punched along the edges. When this has been done, the film is ready for that most important step in any photographic process, the exposure.

In the March, 1930, issue, something was given regarding the part played by light, and the fact was mentioned that invisible as well as visible light has a definite function in photography. When the vibration of light falls upon the emulsion of silver bromide and gelatin, the bond which holds the silver and bromide together is loosened so that certain chemicals will cause the separa-

XUM

tion of the metallic silver. This is the desired result in the development process.

It so happens that the bromide as ordinarily prepared reacts very strongly to invisible, ultra-violet light, and to a lesser degree to visible blue. It reacts still less to green, and it has practically no response whatever to orange, yellow, and red. Fortunately, only the ultra-violet rays immediately adjacent to the visible violet can pass the glass of the lens; so the light which falls upon the film is practically the light which affects the eye, and the light to which the film in the camera responds is practically limited to the blue and blue-green.

This may seem to be a relatively unimportant point, particularly as the photographs we have become used to throughout the years have been quite satisfactory. As a matter of fact, they have apparently been satisfactory and we do not realise how inferior they are until we compare them with those made upon modern panchromatic negative material.

One of the first things the old-time photographer learned was that blues, even rather deep blues, photograph as very light, and even as pure white; and that yellows and orange colors are unnaturally dark, and red is even more black than real black. He used various means to combat this situation, including manipulation of lighting and extensive retouching. One of his most serious retouching-problems has been met by many modern kiné amateurs in making close-ups. The skin of the face has not an even, uniform tone, but is made up of tiny flecks of color, red, yellow, orange, gray, and even bluish white. The make-up is not unlike the color-tone of pictures reproduced in color by three-color halftone-blocks. As the emulsion has a selective sensitivity so different from that of the eye, faces often appeared badly freckled and blotched when in life the subject had a "perfect" complexion. The portrait photographer could remove these defects by retouching; but the amateur kiné cameraman could resort only to the use of make-up to provide artificially the uniform color-tone.

After a time, it was discovered that by certain processes, notably the treatment of the emulsion with certain dyes, the sensitivity could be extended to the yellow and into the orange. So remarkable was the improvement in quality thus obtained that such emulsions were given the name *orthochromatic* or *right-color*. Although a misnomer the term is still in use, and this is the film you use under the name of *ordinary* kiné-film.

Later, other dyes were found which would actually extend the sensitivity to include the red and thus all visible light. This film was called *panchromatic*. Panchromatic film was discussed in our May, 1930, issue, so that a repetition would be out of place here. There is one point, however, which should be emphasised, even at the cost of such repetition.

Filters, pieces of colored gelatin, or glass used between the film and the active light, cannot *add* anything whatever. They can only *subtract* certain undesired light-rays (colors) or a portion of such color. Hence a filter always necessitates a certain amount of increase in exposure.

The discovery of this property of certain dye-stuffs has led to discoveries recently which have great interest. The exact function of the dye has been open to question; but as it has recently been discovered that the dyes are themselves light sensitive, that may be a hint.

In still photography, widely different emulsions are used for various purposes; but in kiné work we commonly use but three—the ordinary (orthochromatic), film and panchromatic negative or reversal film, and the positive film used for printing from the negative. There are other emulsions, such as a special emulsion for copying from prints (duplicating) and for recording sound tracks and various other special uses, including color-reproduction. These are not, however, in wide use.

New Victor Catalog

THE new Victor loose-leaf catalog just issued by the Victor Animatograph Corporation, Davenport, Iowa, is exceptionally attractive, well arranged, and instructive. In addition to presenting a detailed and interesting illustrated account of Victor cameras, projectors, and accessories, the catalog contains many a valuable hint or suggestion with regard to obtaining the best possible results with 16-millimeter motion-picture cameras. The loose-leaf feature will be found convenient because of the opportunity it offers to add supplementary pages to the catalog as the manufacturers issue them from time to time. Typographically, the Victor catalog, with its lively but harmonious use of color, is sounding a new note in photographic advertising which should be welcome to amateur kinematographers and dealers. Copies of this new catalog will be sent free of charge to all readers who will write for it.

Recent Progress in X-Ray Kinematography

SINCE printing the article on X-ray kinematography in these pages several months ago, there have appeared in *Photographische Industrie* and in several other German journals accounts of some later work in that country.

The method of photographing the image produced by the X-ray on a fluorescent screen has been extended by the use of specially hypersensitised film and the use of an objective working at F/1.4 with a special shutter having only a 60° dark sector. This has enabled Jacobsohn and Gottheimer to obtain very clear images showing the lungs and stomach of the human body. Meanwhile, patents have been taken out in England for a lens having an aperture of F/0.4 designed particularly for X-ray kinematography by this method. No details have yet been published.

One of the difficulties in X-ray kinematography is the avoidance of injury to the patient from the high intensity X-rays which are necessary to obtain an image of sufficient intensity to photograph at normal kinematographic speed. A method of producing an intermittent excitation of the tube to correspond with the periods of exposure is described as having produced good results by Rajewski in one of the German radiological journals.

Apparently it is only a matter of a few more years before the problem will be solved and X-ray motion-pictures of the action of most of the internal organs will become possible.

DESPATCH
WILLIAM M. RITTASE